

FINAL MITIGATED NEGATIVE DECLARATION

San Diego Bay National Wildlife Refuge - Bayside Birding and Walking Trail

Date Issued: February 23, 2009

State Clearinghouse Number: 2008121098

Lead Agencies and Project Proponents:

California Coastal Conservancy (CEQA Lead Agency)
1330 Broadway, 11th Floor, Oakland, CA 94612
Contact: Megan Johnson, Project Manager (619) 645-3167

U.S. Fish and Wildlife Service (NEPA Lead Agency and Project Proponent)
San Diego National Wildlife Refuge Complex
6010 Hidden Valley Road, Suite 101, Carlsbad, CA 92011
Contact: Don Brubaker, Refuge Manager (619) 575-2704 ex. 302

CEQA Finding:

Findings of Significant Effect on the Environment:

Based on the analysis and conclusions presented in the joint Initial Study/environmental assessment (EA), the California Coastal Conservancy finds that although the proposed project could have a significant effect on the environment associated with biological resources and water quality, there will not be a significant effect in this case because revisions have been incorporated into the project design to mitigate the effect to below a level of significance. Therefore, a Mitigated Negative Declaration has been prepared.

Project Summary:

The California Coastal Conservancy and the U.S. Fish and Wildlife Service, San Diego National Wildlife Refuge Complex conducted a joint Initial Study/EA to evaluate the potential effects to the environment of implementing 8,710 square feet (0.2 acre) of salt marsh restoration and constructing a six-foot-wide, 2,060-foot-long pedestrian trail, with an associated 50-foot-long pedestrian bridge and 750-square-foot overlook. The project, which is located along the south end of San Diego Bay within the South San Diego Bay Unit of the San Diego Bay National Wildlife Refuge (NWR or Refuge), is proposed to address ongoing impacts to coastal salt marsh vegetation as a result of unauthorized access to the north of the Bayshore Bikeway. The project is subject to both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). CEQA is required because the project will be funded by the California Coastal Conservancy, a State agency, and NEPA is required because the project will be implemented by the U.S. Fish and Wildlife Service (Service), a Federal agency.

The MND and Initial Study/EA have been prepared in accordance with CEQA (PRC 21000 et seq.) and the CEQA Guidelines, (California Code of Regulations Title 14, section 15000 et seq.), and NEPA (42 USC 4341 et seq.) and the Council on Environmental Quality NEPA Regulations contained in C.F.R. Parts 1500-1508. The lead agency under CEQA is the Conservancy and the lead agency under NEPA is the Service. The analysis provided in the MND and Initial Study/EA is intent to aid the Conservancy and the Service in their decision-making process.

Anticipated Approvals and Actions:

California Coastal Conservancy - Approval of the Allocation of Funds for the Project
U.S. Fish and Wildlife Service - Implementation of the Project
U.S. Army Corps of Engineers - Section 404 or Section 10 Permit
Regional Water Quality Control Board - 401 Certification
California Coastal Commission - Coastal Consistency Determination
San Diego and Arizona Eastern Railway Company – License to Construct in Right-of-Way

Project Description: See attached Initial Study/EA.

Effected Environment: See attached Initial Study/EA.

Documentation: The Initial Study/EA, attached, documents the reasons to support the above CEQA Finding.

Mitigation Measures: The following measures have been incorporated into the project design to mitigate potential project impacts to below a level of significance:

Mitigation Measure #1 (Coastal Salt Marsh Restoration)

*Approximately 8,710 square feet (0.2 acre) of highly disturbed, unvegetated land located adjacent to Pond 10 between 7th Street and 195 feet east of 7th Street will be restored to high salt marsh vegetation, consisting primarily of glasswort (*Salicornia subterminalis*), alkali heath (*Frankenia salina*), spreading alkali weed (*Cressa truxillensis*) and saltwort (*Batis maritima*).*

Mitigation Measure #2 (Protection of Sensitive Resources)

To minimize the potential for off-trail activity that could impact sensitive species, appropriate measures, including fencing, signage, public outreach, and when necessary enforcement, will be implemented along the north side of the trail to discourage and minimize off-trail activity.

Mitigation Measure #3 (Protection of Listed Species)

To reduce the potential for impacts to listed species or other species of concern, particularly least terns, snowy plovers, and Belding's savannah sparrows foraging in the vicinity of the project during the nesting season, construction of the trail would be restricted to the non-breeding season (September 15 – February 15).

Mitigation Measure #4 (Best Management Practices)

To minimize the potential for erosion and to avoid the introduction of sediment into Pond 10, the Otay River channel, and adjacent wetlands, best management practices (BMPs), developed during final project design, will be implemented during project construction. At a minimum, BMPs will include: 1) installation of silt fencing; 2) the use of fiber rolls; 3) limiting ground disturbance to the footprint of the proposed facility to the extent feasible; and 4) confining, to the maximum extent possible, all heavy equipment activity to the adjacent paved surfaces. To avoid impacts to water quality, BMPs related to equipment storage, fueling, and repairs have been incorporated in the project.

The Mitigation, Monitoring, and Reporting Program is included in the Initial Study/EA as Attachment A-1.

Results of Public Review:

The draft MND, Initial Study/EA, and Mitigation, Monitoring, and Reporting Program were distributed for public review on December 23, 2008. The 30-day public review period ended on January 21, 2009. Two public comment letters were received as a result of public review (provided in Attachment A-2). Neither letter raised issues regarding the adequacy or accuracy of the documents, therefore, no response is required. In addition, no comments were received by the State Clearinghouse.

Distribution List:

The draft MND and Initial Study/EA and/or Notice of Availability of the MND was provided to the following agencies, organizations, and interested parties for review and comment.

Local Libraries

Coronado Public Library
Imperial Beach Library

U.S. Congress

Honorable Barbara Boxer, U.S. Senate
Honorable Dianne Feinstein, U.S. Senate
Congresswoman Susan Davis, District 53
Congressman Bob Filner, District 51

California State Legislature

Senate, Denise Ducheny, District 40
Assembly, Mary Salas, District 79

City Governments

City of Coronado, Community Development
City of Imperial Beach, Mayor/City Council
City of Imperial Beach, Community Dev.
City of Imperial Beach, Public Works
City of San Diego, Council District 8
City of San Diego, Community Planning

County Government

San Diego County Supervisor Greg Cox

Federal Agencies

NOAA Marine Fisheries, Bob Hoffman
U.S. Army, Corps of Engineers

California State Agencies

California State Clearinghouse
California Coastal Commission, Federal
Consistency
California Coastal Commission, S.D. Office
California State Parks, SHPO
Department of Fish and Game, South Coast
San Diego RWQCB, Region 9
State Lands Commission, Executive Officer

Other Agencies

Metropolitan Transit Development Board
Bayshore Bikeway Working Group
Unified Port of San Diego

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

Organizations

California Native Plant Society
Endangered Habitats League
Environmental Health Coalition
Imperial Beach Chamber of Commerce
Luce, Forward, Hamilton, & Scripps
Otay Valley Regional Park Committee
San Diego Archaeological Society
San Diego Audubon Society
Save Our Heritage Organisation
Sheppard, Mullin, Richter, & Hampton LLP

South Bay Salt Works
Southern California Wetlands Recovery
Project, San Diego Task Force
SWIA
Wild Coast

Media

Imperial Beach Eagle & Times
San Diego Union-Tribune
Star News

Copies of the draft Mitigated Negative Declaration, Initial Study/EA, and Initial Study Checklist were also made available for review at the following locations:

Tijuana Estuary Visitor Center
301 Caspian Way
Imperial Beach, CA 91932

Imperial Beach Library
810 Imperial Beach Blvd.
Imperial Beach, CA 91932

Coronado Public Library
640 Orange Avenue
Coronado, CA 92118

These documents were also posted for electronic viewing at the following websites:

California Coastal Conservancy Website, go to: www.scc.ca.gov, then click Public Notices under the Quick Links box in the upper left hand corner of the home page.

San Diego National Wildlife Complex Website, go to:
<http://www.fws.gov/sandiegorefuges/>, under Site Navigation click on “What’s New.”

Megan Johnson, Project Manager
California Coastal Conservancy

December 23, 2008

Date of Draft

February 23, 2009

Date of Final

Attachment A-1

Mitigation, Monitoring, and Reporting Program

Attachment A1

Mitigation Monitoring and Reporting Program

Mitigation, Monitoring, and Reporting Program for the Bayside Birding and Walking Trail						
Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Approximately 1,350 square feet (0.03 acre) of coastal salt marsh would be impacted by trail construction.	Restore 8,712 square feet (0.2 acre) of native high salt marsh vegetation, consisting of glasswort (<i>Salicornia subterminalis</i>), alkali heath (<i>Frankenia salina</i>), spreading alkali weed (<i>Cressa truxillensis</i>) saltwort (<i>Batis maritima</i>), and other appropriate native species, using seed collected from the project vicinity, as well as plants salvaged from the trail alignment.	Restoration would occur on the San Diego Bay NWR on exposed soil located to the north of the proposed trail alignment from 7 th Street to 195 feet east of 7 th Street in Imperial Beach.	A monitoring report describing initial restoration actions will be prepared by the Refuge and submitted to the Coastal Conservancy within one month of completion of trail construction. The Refuge Manager will be responsible for quarterly maintenance and monitoring of the restoration site, with these results compiled into annual reports, with the first to be provided to the Coastal Conservancy thirteen months after the completion of the project.	Mitigation will be achieved when the 8,712-square-foot (0.2-acre) restoration site achieves 80% coverage of native high salt marsh vegetation.	U.S. Fish and Wildlife Service, San Diego National Wildlife Refuge Complex	Revegetation will begin within two week of the completion of trail construction. The revegetation site will be maintained and monitored on a quarterly basis for three years or until the site achieves 80 percent coverage of native high salt marsh vegetation.

Attachment A1**Mitigation Monitoring and Reporting Program**

Mitigation, Monitoring, and Reporting Program for the Bayside Birding and Walking Trail						
Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Potential disturbance to listed species and other species of concern as a result of unauthorized off-trail activity to the north of the trail	Implement measures, including fencing, signage, public outreach, and law enforcement patrol to discourage and minimize off-trail activity.	Post and cable fencing and signage would be installed along the northern edge of the trail, as deemed appropriate by the Refuge Manager. The Refuge's public outreach program would present to the surrounding community the need to stay on the trail and protect sensitive coastal resources around the bay.	The initial monitoring report will include a map indicating where all fencing and signage have been installed. As part of the quarterly monitoring of the restoration site, the Refuge Manager will document the effectiveness of the fencing and signage; identify public outreach efforts implemented to date (e.g., coordination with local newspaper reporters to develop articles for the local paper, inclusion of proper trail etiquette into existing environmental education programs, and occasional nature walks along the new trail), and if necessary implement additional steps to protect adjacent sensitive resources including patrol of the area by Refuge Law Enforcement Officers.	Mitigation will be successful if off-site trail activity in the area north of the trail is reduced by 90% over existing conditions.	U.S. Fish and Wildlife Service, San Diego National Wildlife Refuge Complex	Fencing and signage will be installed as part of project construction. Public outreach will be implemented during and after project construction. The Refuge will monitor public use activity in the area on a quarterly basis until restoration actions have been successfully completed, and then monitoring will occur at least every six months.

Attachment A1**Mitigation Monitoring and Reporting Program**

Mitigation, Monitoring, and Reporting Program for the Bayside Birding and Walking Trail						
Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Potential disturbance to California least terns and western snowy plovers, as well as other species of concern, during the nesting season as a result of construction activity.	Restrict construction of the trail to the non-breeding season (September 15 – February 15).	Throughout the project site.	The Refuge Manager will ensure that no construction occurs during the breeding season. This will be reported as a line item in the initial monitoring report.	No construction during the nesting season will avoid the potential for disturbance from trail construction activity.	U.S. Fish and Wildlife Service, San Diego National Wildlife Refuge Complex	Project construction will not be permitted from February 15 through September 15.

Attachment A1

Mitigation Monitoring and Reporting Program

Mitigation, Monitoring, and Reporting Program for the Bayside Birding and Walking Trail						
Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Potential for increased sedimentation during and immediately following trail and overlook grading and construction of the bridge.	Develop best management practices (BMPs) during final project design that at a minimum would include installation of silt fencing to the north of the proposed trail and overlook construction area prior to initiating any ground disturbance; use of fiber rolls in addition to silt fencing around any areas of excavation necessary to accommodate the installation of the pedestrian bridge; limit ground disturbance to the footprint of the proposed facility to the extent feasible; and confine, to the maximum extent possible, all heavy equipment activity to the adjacent paved surfaces.	Throughout the project site.	The initial monitoring report will include a summary of the BMPs that were used during construction and describe any impacts that may have occurred that require remediation.	The Refuge Manager will ensure that all required BMPs are in place prior to and during construction. Effective BMPs will result in no sedimentation to adjacent wetland areas.	U.S. Fish and Wildlife Service, San Diego National Wildlife Refuge Complex	BMPs will be in place prior to and during construction. If construction results in unanticipated exposure of soils outside the boundaries of the proposed facilities, BMPs will remain in place until, in the opinion of the Refuge Manager, the disturbed area has revegetated and is no longer susceptible to erosion.

Attachment A1**Mitigation Monitoring and Reporting Program**

Mitigation, Monitoring, and Reporting Program for the Bayside Birding and Walking Trail						
Impact	Mitigation Measure	Location	Monitoring/ Reporting Action	Effectiveness Criteria	Responsible Agency	Timing
Potential for the release of pollutants from construction equipment into adjacent wetland areas.	Implement BMPs that include the following: prohibit the storage, repair, or refueling of construction equipment on the project site; inspect all equipment for leaks immediately prior to the start of project activities and regularly during construction; develop an emergency spill response plan prior to initiation of project construction; and maintain a spill kit on-site throughout construction.	Throughout the project site.	The initial monitoring report will include a summary of the BMPs that were used during construction and describe any impacts that may have occurred that require remediation.	The Refuge Manager will ensure that all required BMPs are in place and adhered to prior to and during construction. Effective BMPs will result in no release of pollutants into adjacent wetland areas.	U.S. Fish and Wildlife Service, San Diego National Wildlife Refuge Complex	BMPs will be in place prior to and during construction.

Attachment A-2

Public Comments

Two public comment letters were provided during the public review period.

Neither letter contains substantive comments regarding the adequacy or accuracy of the document, therefore, no response to these comments is required. These letters are attached for consideration by the decision maker.

FEB-10-2009 12:43

STATE CLEARINGHOUSE

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ARNOLD SCHWARZENEGGER
GOVERNOR

STATE OF CALIFORNIA
GOVERNOR'S OFFICE of PLANNING AND RESEARCH
STATE CLEARINGHOUSE AND PLANNING UNIT



CYNTHIA BRYANT
DIRECTOR

February 5, 2009

Megan Johnson
California State Coastal Conservancy
1350 Front Street, Suite 3024
San Diego, CA 92101

Subject: San Diego Bay National Wildlife Refuge Bayside Birding and Walking Trail
SCH#: 2008121098

Dear Megan Johnson:

The State Clearinghouse submitted the above named Mitigated Negative Declaration to selected state agencies for review. The review period closed on January 21, 2009, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts
Director, State Clearinghouse

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

FEB-10-2009 12:43

STATE CLEARINGHOUSE

P.003

Document Details Report
State Clearinghouse Data Base

SCH# 2008121098
Project Title San Diego Bay National Wildlife Refuge Bayside Birding and Walking Trail
Lead Agency California State Coastal Conservancy

Type MND Mitigated Negative Declaration

Description The project involves the rehabilitation of 8,712 square feet (0.2 acre) of high salt marsh habitat that has been trampled and severely damaged as a result of unauthorized access along the southern edge of the Refuge and the construction of a 2,080-foot-long-wide, 3-inch deep stabilized aggregate pedestrian trail and 750-square foot overlook that will accommodate public access for wildlife observation, while directing people away from sensitive habitat areas.

Lead Agency Contact

Name Megan Johnson
Agency California State Coastal Conservancy
Phone (619) 645-3167 **Fax**
email
Address 1350 Front Street, Suite 3024
City San Diego **State** CA **Zip** 92101

Project Location

County San Diego
City Imperial Beach
Region
Cross Streets Boulevard Avenue between 7th and 10th Streets
Lat / Long 32° 35' 28" N / -117° 7' 5" W
Parcel No. 616-021-12
Township 18S **Range** 2W **Section** 20 **Base** SBM

Proximity to:

Highways 74, I-5
Airports
Railways San Diego Trolley
Waterways San Diego Bay, Otay River
Schools Bayside ES
Land Use National Wildlife Refuge

Project Issues Aesthetic/Visual; Archaeologic-Historic; Biological Resources; Geologic/Seismic; Landuse; Noise; Other Issues; Population/Housing Balance; Public Services; Recreation/Parks; Soil Erosion/Compaction/Grading; Water Quality; Wetland/Riparian

Reviewing Agencies Resources Agency; California Coastal Commission; Department of Conservation; Department of Fish and Game, Region 5; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 11; Air Resources Board, Transportation Projects; Regional Water Quality Control Board, Region 9; Native American Heritage Commission; Public Utilities Commission

Date Received 12/23/2008 **Start of Review** 12/23/2008 **End of Review** 01/21/2009

Note: Blanks in data fields result from insufficient information provided by lead agency.

TOTAL P.003



San Diego County Archaeological Society, Inc.

Environmental Review Committee

29 December 2008

To: Ms. Megan Johnson
Project Manager
California Coastal Conservancy
1350 Front Street, Suite 3024
San Diego, California 92101

Subject: Draft Mitigated Negative Declaration and
Joint Initial Study/Environmental Assessment
San Diego Bay National Wildlife Refuge Bayside Birding and Walking Trail

Dear Ms. Johnson:

I have reviewed the subject documents on behalf of this committee of the San Diego County Archaeological Society.

Based on the information contained in the documents, we agree that the project should have no significant impacts to cultural resources, and that no mitigation measures for cultural resources are required.

Thank you for including SDCAS in the public review of this project's environmental documents.

Sincerely,


James W. Royle, Jr., Chairperson
Environmental Review Committee

cc: SDCAS President
File

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

MND_public_comment

From: rui eta [rui eta@yahoo.com]
Sent: Friday, January 30, 2009 4:46 PM
To: mjohnson@scc.ca.gov
Subject: 7th - 10th Street trail

Hello,
I am the owner of 791 Boulevard and I'm in favor of the proposed trail as I think it will be good for everyone to enjoy the beautiful view.

Could you please keep me updated.

Thanks,
Rui eta DaSilva

Joint Initial Study/Final Environmental Assessment

1. Proposed Action

The California Coastal Conservancy proposes to grant funds to the U.S. Fish and Wildlife Service, San Diego National Wildlife Refuge (NWR) Complex, a public entity, for the purpose of protecting and providing compatible public enjoyment of sensitive wetland habitat by restoring 8,712 square feet (0.2 acre) of coastal salt marsh habitat along the southwest end of San Diego Bay and constructing a six-foot-wide, 2,060-foot-long pedestrian trail along the south end of San Diego Bay from 7th Street to 10th Street in Imperial Beach. The trail, which would run just north of and parallel to the Bayshore Bikeway within the San Diego Bay NWR, is intended to direct users away from sensitive resources by providing a formal delineated pathway for pedestrian use. A 50-foot-long pedestrian bridge would be required to provide trail access across an existing drainage channel and a 750-square-foot overlook area (consisting of stabilized soil) would be constructed to the north of the trail at 10th Street. As part of a future project, an additional observation area will be constructed to the north of the trail at 8th Street. The current project also proposes to expand public outreach to increase public appreciation for the unique coastal resources of San Diego Bay.

Alternatives to the Proposed Action. Two alternatives to the proposed action were considered: 1) No Action (i.e., do not restore coastal salt marsh habitat and build a designated pedestrian trail to the north of the Bayshore Bikeway); and 2) Reduced Project (i.e., do not construct a designated trail between 7th Street and 8th Street, reducing the trail alignment to the area between 8th Street to 10th Street, and do not restore coastal salt marsh habitat along the southwest end of Pond 10).

2. Project Location

The proposed trail would be situated at the south end of San Diego Bay between 7th Street and 10th Street in Imperial Beach, San Diego County, California (Figure 1, figures are located at the end of the Initial Study/EA). The trail would be aligned to the north of the existing Bayshore Bikeway and to the south of the existing salt ponds and Otay River channel. The entire project site is located within the Coastal Zone.

3. Project Background

The Comprehensive Conservation Plan (CCP) for the San Diego Bay NWR (*USFWS 2006*) presents the long term vision for the Refuge and establishes management goals, objectives, and strategies for achieving the Refuge purposes of conserving habitats for federally listed species and migratory birds and maintaining and enhancing the biological diversity of native plants and animals. The strategies for achieving these purposes include, but are not limited to, habitat restoration and the provision of compatible recreational opportunities that can foster public appreciation of the unique biological resources supported in south San Diego Bay. The current project, which is proposed in the CCP, would eliminate ongoing disturbance to existing habitat, restore habitat disturbed by unauthorized access on Refuge land, and establish a pedestrian pathway that would provide defined public access in the least

environmentally sensitive areas of the Refuge where the public could enjoy and develop an appreciation for the resources being protected within the Refuge.

The pedestrian pathway described in the CCP would ultimately extend from 7th Street to 13th Street in Imperial Beach. The portion of pedestrian pathway that extends from about Florida Street to 13th Street was recently constructed as part of the Refuge's Habitat Heroes outdoor environmental education classroom project. The proposed Bayside Birding and Walking Trail would complete the portion of the pathway that extends from 7th Street to 10th Street. The center portion of this pathway, the area from 10th Street to about Florida Street, will require coordination with the City of Imperial Beach prior to construction due to the current lack of space available for trail construction immediately adjacent to the bike path in this location. In addition to providing a pedestrian trail between 7th Street and 10th Street, the CCP also proposes the installation of three observation points along the proposed trail to provide opportunities for observing the tens of thousands of migratory shorebirds, seabirds, and wintering waterfowl that annually nest and/or forage within south San Diego Bay.

The San Diego National Wildlife Refuge Complex is responsible for the long term management and maintenance of the natural and cultural resources occurring within the Refuge boundary, as well as all associated Refuge facilities, including the proposed trail, pedestrian bridge, and overlook areas. The San Diego Bay NWR with the help of a number of non-government and local agency partners, maintains an active public outreach program that includes several successful environmental education programs, including Habitat Heroes and Sweetwater Safari, volunteer projects, and interpretive and bird watching field trips. The intent of this outreach program is to expand public awareness of the Refuge and its resources, and to increase the public's understanding of the role they can play in protecting these resources.

A programmatic Environmental Impact Statement was prepared for the CCP and circulated for public review in 2006. A Record of Decision was signed in September 2006. The Final San Diego Bay Comprehensive Conservation Plan/Environmental Impact Statement (*USFWS 2006*) is incorporated by reference into this document and is available for review at the San Diego NWR Complex Office (760-930-0168), located at 6010 Hidden Valley Road, Suite 101, Carlsbad, CA or online at <http://www.fws.gov/sandiegorefuges/new/ccp/ccp.htm>.

4. Project Purpose and Need

The area of the San Diego Bay NWR located to the north of the Bayshore Bikeway, particularly in the vicinity of Pond 10, is subject to considerable unauthorized access, which has resulted in the trampling and loss of salt marsh vegetation. By designating an official trail in this area, currently destructive unauthorized access would be eliminated and coastal salt marsh vegetation could be restored. The construction of an official pedestrian trail would: 1) improve the public's experience (e.g., walking, wildlife observation, sightseeing) of the San Diego Bay NWR; and 2) provide a defined pathway to the north of the Bayshore Bikeway that will eliminate ongoing trampling of sensitive coastal wetland habitat.

Current access around the south end of San Diego Bay is provided via the Bayshore Bikeway, a 26-mile bicycle facility that extends around much of San Diego Bay. The portion

of the bikeway that exists in proximity to the Refuge boundary is a 10-foot-wide Class 1 bikeway that extends south from Coronado along the western edge of San Diego Bay to 13th Street in Imperial Beach. Spectacular views of the bay and the many species of birds that utilize the habitats in south San Diego Bay are available along this segment of the bikeway. Between about 7th Street and 13th Street in Imperial Beach the bikeway experiences heavy use by bicyclists, as well as pedestrians. Counts taken along this segment of the bike path several years ago indicated that in April 2006 approximately 400 bicyclists traveled along the path on weekdays and about 500 bicyclists used the bike path on the weekends (*Stephan Vance pers. comm. May 2008*). Significant increases in total usage are expected in 2009, when a new portion of the bikeway, located between 13th Street and Main Street to the east is scheduled to be completed. Although no formal counts have been made of the number of pedestrians using the bike path and adjacent open area to the north of the bike path, observations by City of Imperial Beach and Refuge staff indicated that on average approximately 50 to 75 pedestrians are present in the area each weekday and 100 to 150 pedestrians visit the site on the weekends. These numbers are higher in the summer and during peak bird migration periods when birdwatchers from around the world, visit the south end of San Diego Bay to observe the variety of migratory birds that forage and nest here. The site provides rare opportunities to observe seven species of nesting seabirds, including the gull-billed tern, which only nests in two locations within California.

Under current conditions, commuter and recreational bicyclists are sharing the existing 10-foot-wide paved bike path with all forms of pedestrians, including walkers, birdwatchers, joggers, dog walkers, and children in strollers. This situation represents a potential safety hazard to both bicyclists and pedestrians. It also adversely affects the overall quality of each user's experience and has resulted in some users, including both bicycles and pedestrians, veering off the bike path and onto the adjacent habitat area, causing degradation of coastal wetland habitat. In addition, birdwatchers set up observation equipment along the edge of the salt ponds to avoid conflicts with bicyclists. All of this unauthorized access has seriously denuded the edges of the salt ponds.

The proposal to provide a pedestrian trail within the area located to the north of the Bayshore Bikeway would create a defined pathway for pedestrians to follow; a pathway that would be located further away from the edge of the salt pond than the current rogue trails that have been created as a result of unauthorized access into this area (Figures 2A and 2B). The proposed trail would allow for the current uses on the bike path to be separated, with pedestrian uses redirected to the new walking trail. This would provide pedestrians with safe, quality walking and wildlife viewing experiences, while also eliminating current ongoing damage to sensitive wetland areas. The inclusion of an overlook at the end of 10th Street, and a future overlook at 8th Street, will also enable birdwatchers and sightseers to move off the trail to set up observation and camera equipment or to simply observe and enjoy the resources protected within the Refuge without disturbing the adjacent wetland areas.

5. Project Description

The project involves the restoration of 8,712 square feet (0.2 acre) of high salt marsh habitat that has been trampled and severely damaged as a result of unauthorized access along the

southern edge of the Refuge and the construction of a 2,060-foot-long, six-foot-wide, 3-inch deep stabilized aggregate pedestrian trail and 750-square-foot overlook that will accommodate public access for wildlife observation, while directing people away from sensitive habitat areas (Figure 3). Table 1 provides a breakdown of the overall project area.

Table 1 – Total Project Area	
Project Component	Effected Area (square feet)
Habitat restoration area	8,712 square feet
Pedestrian Trail (including bridge)	12,360 square feet
Overlook (observation area)	750 square feet
Total Project Area	21,822 square feet (0.5 acres)

The trail, which would begin at 7th Street in Imperial Beach (Figure 2A – Photo A) and extend east to 10th Street, would be constructed using hand tools and construction equipment (e.g., dump trucks, small excavators, crane for bridge placement, concrete pumping trucks). Approximately 1,630 cubic yards of stabilizing decomposed granite would be required to construct the trail and surface of the proposed overlook at 10th Street. This represents approximately 82 truck loads of material that would be delivered to the site. Once delivered, the material would be spread within the defined trail alignment by small-scale construction equipment. The bridge would likely be assembled off-site and lifted into place by crane. Construction staging would occur on a disturbed, unvegetated area to the north of the Bayshore Bikeway at 8th Street. Approval would also be sought from the City of Imperial Beach to stage and store equipment on City of Imperial Beach property located at 10th Street. Trail construction and site revegetation, which would occur outside of the nesting season (i.e., September 15 to February 15), would require approximately two months to complete.

As indicated in Figure 2A – Photos B, C, and D, more than 8,710 square feet (0.2 acre) of high salt marsh vegetation has been damaged or destroyed as a result of unauthorized access along the southern edge of Pond 10. This project includes a proposal to rehabilitate high salt marsh vegetation in the area between Pond 10 and the proposed trail. Restoration would involve soil preparation, spreading seeds from existing high salt marsh vegetation in the vicinity of the project site, transplanting vegetation to be displaced by trail construction, and maintaining and monitoring the restoration site. The restored area will be posted with appropriate signage, and if necessary temporarily fenced, to minimize the potential for human disturbance during plant establishment (refer to Section 7B for more details).

The proposed trail would begin at the point where access is provided to the Bayshore Bikeway from 7th Street. The topography in this location is relatively flat and just slightly lower than the existing bikeway (Figure 2A – Photos A and B). The first 195 feet of the trail would be constructed fairly close to the bike path in order to minimize impacts to scattered patches of high marsh vegetation growing in the salty soils adjacent to Pond 10. The first 100 feet of the trail could be constructed entirely of stabilized decomposed granite or could involve a combination of stabilized decomposed granite and pin foundation construction, which would create a boardwalk type structure that would eliminate the need to remove

vegetation within this portion of the trail alignment. If short sections of boardwalk type trail are provided, the trail surface would still be six-feet-wide and would be elevated no more than six inches above the existing surface. The decision on which type of trail surface to install in this area will be determined during final design.

The elevation of the proposed trail alignment gradually increases as the trail moves east and the distance between the pond edge and the trail also increases (Figure 2A – Photo C). This change in grade is gradual enough that the trail alignment remains relatively flat from beginning to end. By about 209 feet from 7th Street, the trail is aligned on a bench of flat land located between the bike path and the edge of the pond (Figure 2A – Photo E). About 660 feet from 7th Street, the trail approaches the 8th Street access to the Bayshore Bikeway (Figure 2B – Photo F). A future viewing area is proposed at this location that would be designed to provide wildlife observation opportunities, restrict public access onto the adjacent salt pond levees; and continue to accommodate Service vehicle access to the western pond levees for purposes of maintenance and law enforcement. The viewing area would consist of a slightly raised deck located to the west of the existing maintenance road, along with fencing and a security gate for the maintenance road. Temporary fencing and/or signage would be used in the interim to control public access to the north of the trail in this location.

To the east of 8th Street, the area is relatively level (Figure 2B – Photo G). About 1,450 feet east of 7th Street, the proposed trail alignment approaches a 30-foot-wide drainage channel that will have to be crossed by a bridge (Figure 2B – Photo H). The drainage channel, which is subject to daily tidal flow, carries stormwater from adjacent streets in the City of Imperial Beach to the Otay River channel. The bank on the west side of the drainage is lower than the bank on the east side by about two feet. As a result, fill material generated during trail construction will be placed on the west side of the channel to raise the elevation of the bridge approach in order to accommodate a level bridge crossing. A 50-foot-long, six-foot-wide bridge would span the drainage channel and would be anchored at each end to concrete abutments, enabling the bridge to span the drainage without requiring the placement of pilings or other supports within the channel. The bridge would have 42-inch railings on both sides of the bridge deck.

Once past the bridge site, a natural high point extends east for a distance of approximately 250 feet. The higher elevation provides good views of the Otay River and many of the salt ponds. Near 10th Street, the proposed alignment enters another area offering views of the adjacent bay and associated habitats (Figure 2B – Photo I). At this location, a 750-square-foot overlook area will be provided to the north of the trail. The overlook, which will consist of a stabilized soil surface, will provide an open area where the public can set up spotting scopes and cameras, or simply stop to observe the wetlands and associated wildlife to the north. The northern perimeter of the overlook area will be fenced using post and cable style fencing to delineate the limits of public access. As additional funding is identified, interpretive elements, a bench, and possibly a permanent viewing scope will be added to the overlook. The City of Imperial Beach plans to construct a public parking area to the south of

the Bayshore Bikeway at 10th Street to serve the adjacent trail system. Until the parking area is completed, on-street parking would be available to accommodate trail users.

A future component of this project is the replacement of invasive plants growing on the slope located between the Bayshore Bikeway and the proposed trail with appropriate native upland species. This effort will occur after completion of the trail project when funding is identified to implement this aspect of the project. Revegetation with native species will likely occur with the assistance of community volunteers and non-governmental partners.

Fencing will be required along some if not all of the northern edge of the pedestrian trail. The extent of the fencing will be determined during final design, but will certainly be necessary from 7th Street to approximately 200 feet east of 7th Street where the distance between the trail and edge of Pond 10 is the narrowest. In other locations, the topography between the trail and the wetland area and the use of signage may be adequate to deter off-trail activity. No new fencing is proposed along the south side of the pedestrian trail. All fencing installed within the project site would be similar to the existing post and cable fencing that has been installed along the north and south side of the Bayshore Bikeway. The final fencing plan will be prepared in coordination with the City of Imperial Beach. Signs indicating the presence of sensitive habitat and the need to stay on the trail will also be installed as appropriate along the length of the trail.

To elevate public awareness of the need to protect the sensitive resources along the edge of San Diego Bay, the Refuge's current public outreach program would be expanded to include occasional nature walks along the new trail, coordination with local newspaper reporters to develop articles for the local paper, and inclusion of proper trail etiquette into existing environmental education programs. Additionally, future interpretive elements will be added at the three overlook areas (i.e., 7th Street, 8th Street, and 10th Street) to convey information about the importance of this area to wildlife and the Region's habitat protection efforts.

The trail would be constructed in accordance with accessibility guidelines for trails, as described in the Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas. Specifically, the trail would consist of a combination of stabilized decomposed granite, or other comparable material, and possibly a short section of pin-foundation boardwalk construction at the western end of the trail to minimize impacts to high marsh vegetation. The trail would be constructed entirely on lands included within the South San Diego Bay Unit of the San Diego Bay NWR. The Refuge is managed by the Service, which leases the proposed project site from the California State Lands Commission. Construction on the project would begin sometime after mid-September 2009 and would be completed no later than February 15, 2010.

6. Affected Environment (Existing Conditions)

The discussion included in this section, as well as the topics addressed in the Initial Study Checklist (Appendix A), provide information needed for making informed decisions on the proposed project. Only those aspects of the environment that are potentially affected by the

proposed project are discussed in detail in this section. The Initial Study Checklist demonstrates consideration of all potential aspects of the affected environment.

A. Aesthetics, Visual Quality, and Topography

From 7th Street and 8th Street, the proposed trail alignment is located on a strip of land situated between the Bayshore Bikeway and the edge of Pond 10, an active solar salt pond located at the southern end of San Diego Bay (Figure 2A – Photos A and B). The elevation of the trail alignment in this section gradually increases from west to east; the alignment is at about the same elevation as the bikeway for the first 150 feet. At 150 feet east of 7th Street, the elevation of the bike path begins to increase resulting in a topographic separation between the proposed trail alignment and the bike path (Figure 2A - Photo C). Also in this area, the trail alignment is located at a higher elevation than the edge of the pond, with the trail located on a bench of level ground located between the toe of the bike path slope and the edge of the pond. This bench widens as the alignment moves east.

The segment of the alignment from 8th Street to 10th Street is situated between the Otay River channel and the Bayshore Bikeway (see Figures 1 and 3). This area is relatively flat until the alignment reaches an existing drainage channel that flows through a culvert under the bike path and into the Otay River channel (Figure 2B – Photo H). The bank on the east side of the channel is approximately 2.5 feet higher than the bank on the west side. There is evidence that part of this elevational difference is due to the placement of fill material on the eastern side of the channel. The marine terrace that parallels the Otay River channel from just west of the drainage channel to 10th Street is the most prominent topographic feature in the area. Here the Otay River channel is approximately 15 to 20 feet below the top of the terrace.

The project site's visual setting is depicted in Figures 2A and 2B. To the north of the proposed alignment are the salt ponds and associated levees of an existing commercial solar salt facility and further to the north are the open waters of San Diego Bay. From 8th Street to 10th Street, the Otay River channel is visible between the existing marine terrace formation and the salt pond complex. To the south of the site is the paved Bayshore Bikeway, which includes a post and cable fence on either side of the bike path. Further to the south is urban development, including from west to east, public streets; residential development; an elementary school; and the City of Imperial Beach Public Works Facility. Approximately 1,200 feet to the west of 7th Street is State Route 75, which has been designated by the State of California as a scenic highway. The project site is dominated by non-native vegetation, although some high marsh vegetation is present at the western most end of the alignment. Scattered native shrubs planted by Eagle Scouts, local students, the City of Imperial Beach, and the Refuge are growing in various locations along the north side of the Bayshore Bikeway and in a few areas along the marine terrace to the west of 10th Street. There are no significant prominent visual features within the proposed alignment.

B. Biological Resources

Vegetation/Habitat.

The project site has been subject to extensive disturbance since at least the 1880s when a railroad, the Coronado Belt Line, was constructed within the present day alignment of the Bayshore Bikeway. Additional disturbance occurred in the early 1900s when portions of the property were impacted by the construction of the salt ponds and associated levees. Evidence of fill is present on the marine terrace located to the east of the drainage channel and the bottom of the drainage itself has been covered with medium sized rip rap to reduce flow velocities in the drainage channel. More recent disturbance in the area to the south of Pond 10 by pedestrians and bikes has denuded areas of naturally recruiting high salt marsh vegetation. A summary of the current vegetation types and the approximate square footage of each type occurring within the project site is provided in Table 2.

Non-Native Vegetation. Approximately 11,760 square feet (0.27 acre) of the project site is highly disturbed and dominated by non-native invasive plants such as garland chrysanthemum (*Chrysanthemum coronarium*), various forms of invasive iceplant, particularly *Mesembryanthemum crystallinum*, *Mesanthemum nodiflorum*, and *Malephor crocea*, and other weeds and non-native annual grasses. Also supported in this area are a few native upland plants, such as bladder pod (*Isomeris arborea*), coast sunflower (*Encelia californica*), California saltbush (*Atriplex californica*), and California sagebrush (*Artemisia californica*), as well as some other ornamental drought tolerant species, that have been planted along the northern edge of the Bayshore Bikeway and in a few locations on the marine terrace.

Table 2 Summary of the Vegetation Types Occurring within the Project Site	
Vegetation Type	Approximate Square Footage
Non-native, Invasive Weeds	11,760 square feet (0.27 acre)
Disturbed High Salt Marsh (60% native salt marsh cover/40% non-native species cover)	1,170 square feet (0.027 acre)
Disturbed High Salt Marsh (5% native salt marsh cover/95% barren soil)	8,712 square feet (0.2 acre)
Tidally-Influenced Salt Marsh	180 square feet (0.004 acre)
Total Area	21,822 square feet (0.5 acre)

High Coastal Salt Marsh Vegetation (not subject to tidal influence). Disturbed high coastal salt marsh vegetation occurs between the Bayshore Bikeway and upper edges of Pond 10 from about 7th Street to approximately 195 feet to the east of 7th Street. Closest to the pond edge, the patches of vegetation that are present consist almost exclusively of native salt marsh species. However, extensive portions of this area, approximately 8,712 square feet (0.2 acre), have been denuded as a result of trampling by unauthorized public

access (see Figure 2A – Photos B – C.). Further away from the pond edge, which includes the area to be impacted by the proposed trail, the vegetation consists of a mix of these native high salt marsh species and non-native forbs and grasses. The vegetation coverage in this area consists of approximately 60 percent native high salt marsh species and 40 percent non-native species.

Although this vegetation is not currently subject to tidal influence, the salinity levels in the soil are likely influenced by the salinity levels within the adjacent salt pond. The native salt marsh species present in this area include glasswort (*Salicornia subterminalis*), alkali heath (*Frankenia salina*), spreading alkali weed (*Cressa truxillensis*) and saltwort (*Batis maritima*). Saltwort tends to occur closer to the edge of the salt pond, with the other high marsh species scattered throughout this portion of the site.

Coastal Salt Marsh Vegetation (subject to daily tidal influence). Approximately 180 square feet of the project site (the area over which a pedestrian bridge would be installed) includes a drainage channel that extends across the proposed trail alignment in the vicinity of 10th Street (see Figure B – Photo H.). The channel, which conveys storm water and urban runoff into the Otay River channel and ultimately San Diego Bay from the developed areas of Imperial Beach to the south, is subject to daily tidal inundation. Although disturbed as a result of past development activity, this drainage supports tidally influenced salt marsh vegetation and conveys tidal flows to remnant salt marsh vegetation located to the south of the bikeway outside of the project area. The channel bottom has been haphazardly lined with rock to reduce flow velocities, leaving some portions of the channel bottom covered in rock and other portions supporting low salt marsh vegetation. The sides of the channel support a mixture of coastal salt marsh species including pickleweed (*Sarcocornia pacifica*), annual pickleweed (*Salicornia bigelovii*), glasswort, saltwort, alkali heath, and estuary seablite.

From 8th Street to 10th Street, the project site is bordered to the north by tidally influenced salt marsh and tidal mudflat habitats associated with the Otay River channel.

Wildlife. Upland birds, such as mourning dove (*Zenaida macroura*), white-crowned sparrow (*Zonotrichia leucophrys*), Anna's hummingbird (*Calypte anna*), killdeer (*Charadrius vociferous*), American crow (*Corvus brachyrhynchos*), and common raven (*Corvus corax*) are commonly observed in the habitats included within the project boundary. The most commonly observed mammals include California ground squirrel (*Spermophilus beecheyi*) and desert cottontail (*Sylvilagus audubonii*). Other expected mammals include: Botta's pocket gopher (*Thomomys bottae*), dusky-footed woodrat (*Neotoma fuscipes*), striped skunk (*Mephitis mephitis*), and an occasional coyote (*Canis latrans*). San Diego gopher snake (*Pituophis melanoleucus annectens*) and western fence lizard (*Sceloporus occidentalis*) have also been observed. The lack of native habitat throughout much of the project site and the proximity of urban development limit the number of native species occurring within the area.

The habitats to the north of the project site annually support tens of thousands of migratory birds traveling along the Pacific Flyway. The extensive tidal mudflats located to the north of the salt pond complex provide essential foraging areas for shorebirds, the eelgrass beds further to the north support a variety of waterfowl and Pacific green sea turtles (*Chelonia mydas*), and the salt ponds provide brine flies (*Ephydra* sp.) and brine shrimp (*Artemia* sp.) for large numbers of red-necked and Wilson's phalaropes (*Phalaropus lobatus* and *Phalaropus tricolor*) and eared grebes (*Podiceps nigricollis*), as well as a variety of other migratory birds. The salt pond levees provide important nesting habitat for seven species of ground nesting seabirds, including the federally listed endangered California least tern (*Sternula antillarum browni*), as well as Caspian tern (*Hydroprogne caspia*), elegant tern (*Thalasseus elegans*), royal tern (*Thalasseus maximus*), gull-billed tern (*Gelochelidon nilotica vanrossemi*), Forster's tern (*Sterna forsteri*), and black skimmer (*Rynchops niger*). Other birds including the federally listed threatened western snowy plover (*Charadrius alexandrinus nivosus*), American avocet (*Recurvirostra americana*), and black-necked stilt (*Himantopus mexicanus*) also nest on the salt pond levees to the east of the Otay River channel (Stadtlander and Konecny 1994). No seabird or shorebird nesting has been observed on the levees located to the west of the Otay River channel.

Intact high marsh habitat occurring along some of the salt pond levees and along the slopes of the Otay River channel provide year-round habitat for the State listed endangered Belding's savannah sparrow (*Passerculus sandwichensis beldingi*). The mudflats within the Otay River channel, particularly during periods of low tide, provide important foraging habitat for shorebirds and other waterbirds.

Because of the quality of the habitats and the numbers of birds that utilize these habitats, the San Diego Bay NWR is recognized by the American Bird Conservancy as a Globally Important Bird Area and has been designated a Western Hemisphere Shorebird Reserve Network Site. Additional details regarding avian use of the San Diego Bay NWR is provided in the San Diego Bay NWR Final CCP/EIS (USFWS 2006), which is incorporated into this document by reference.

Endangered and Threatened Species and Other Species of Concern.

Federally-Listed Species. No federally-listed endangered and threatened species are supported within the project site, however, a number of listed species utilize the habitats adjacent to the site. Site specific information about these species is provided below. More detailed information about the Federally-listed species in the project vicinity is provided in the Section 7 Biological Evaluation Form (Appendix B). Neither the project site, nor the Refuge includes any Critical Habitat areas. Areas surrounding the project site that support listed species are illustrated in Figure 4.

California Least Tern (*Sternula antillarum browni*)

The California least tern, the smallest of the tern species, once nested on unfrequented sandy beaches close to estuaries and coastal embayments. By the 1960s, the

availability of these isolated nesting areas had been severely reduced as a result of coastal development and an ever increasing human presence on the beaches. As these natural nesting areas were lost, least tern numbers diminished from uncountable thousands to several hundred. In 1970, the least tern was added to the Federal Endangered Species List.

The California least tern is migratory, arriving along the southern California coast to begin breeding in April and departing in August for the Central or South American coast, where it spends the winter. Only a few beaches continue to support least tern nesting in San Diego County, including the Tijuana Estuary, Naval Amphibious Base Coronado, Naval Base Coronado (NAB Coronado, NBC), Santa Margarita River mouth, and an area in Ocean Beach near the mouth of the San Diego River (*USFWS 2006*). The majority of the least tern nesting areas now occur on manufactured substrates or fills, some of which were intentionally created to support tern nesting, while others were created for different reasons and inadvertently attracted nesting terns. One of these areas is the salt works, located to the north of the project site. Least tern nesting was first documented here in 1968. The least terns nest on the salt pond levees located to the east of the Otay River channel, generally on the interior levees, which are not visible from the project site. Nesting within the salt pond complex is regular; however, the number of least tern pairs utilizing the salt pond levees has varied over the years.

Light-footed Clapper Rail (*Rallus longirostris levipes*)

The light-footed clapper rail spends its entire life in southern California coastal salt marshes, lagoons, and their maritime environs. Nesting usually begins in March and late nests have usually hatched by August. The birds nest in the lower littoral zone of coastal salt marshes where dense stands of cordgrass (*Spartina foliosa*) are present. They also occasionally build nests in pickleweed. Light-footed clapper rails have also been known to reside and nest in freshwater marshes, although this is not common. They require shallow water and mudflats for foraging, with adjacent higher vegetation for cover during high water (*Massey et al. 1984*).

It is believed that most salt marshes along the coastline at one time supported clapper rails. However, recent census data indicate that less than 50 percent of the remaining coastal wetlands in California are currently occupied. Destruction of coastal wetlands in southern California has been so extensive that many estuaries where light-footed clapper rails were once abundant have been reduced to remnants. Although salt marsh habitat loss, degradation, and fragmentation are the leading threats to these rails, they are also threatened by disturbance, diseases, contaminants, and predation by non-native red foxes, feral cats, crows, and some raptors. The light-footed clapper rail was federally listed as endangered in 1970.

Surveys of the Otay River channel have periodically located nesting pairs of clapper rails between 1984 and 1998. In 1984, five nesting pairs were identified, while in 1998 only two pairs were located. The last clapper rail survey of the Otay River

occurred in 2000, when only one nesting pair was detected. No observations of clapper rails have occurred in the portion of the Otay River channel that abuts the project site, and no clapper rail activity has been documented in the salt ponds.

California Brown Pelican (*Pelecanus occidentalis californicus*)

The California brown pelican, which is one of six recognized subspecies of brown pelican, occurs along the Pacific Coast of the U.S. and Mexico, including the Gulf of California (USFWS 1983). The California brown pelican is still found in its original range, and breeds in the Channel Islands and on several islands off the coast of Acapulco, Guerrero, Mexico.

The California brown pelican was listed as endangered in 1970 because of widespread pollutant-related reproductive failures. They are extremely sensitive to bioaccumulation of the pesticide DDT, which causes reproductive failure by altering calcium metabolism and thinning eggshells. Although California breeding populations have rebounded since the elimination of DDT use, DDT is still manufactured for export and its effects in the environment linger.

The availability and quality of roosting and loafing areas influences the energy budgets and reproductive potential of these birds (Jaques and Anderson 1987). Unfortunately, the availability of roosting areas is declining in California as development continues along the coast. This habitat is important for both breeding and non-breeding birds during the breeding season and particularly for the thousands of wintering migrants that occupy the coastal areas of the Southern California Bight during late summer and early fall (Jaques and Anderson 1987).

The San Diego Bay NWR provides year-round foraging and roosting habitat for non-breeding pelicans. These birds are often observed foraging over the open waters in south San Diego Bay. The salt pond levees, particularly the levee between Ponds 10 and 11, appear to provide important roosting areas for non-breeding pelicans.

Western Snowy Plover (*Charadrius alexandrinus nivosus*)

The western snowy plover nests adjacent to or near tidal waters with a breeding range that extends along the coastal beaches from the southern portion of Washington State to southern Baja California, Mexico (USFWS 1993). The breeding season extends from March 1 through September 15. Adults and young forage on invertebrates along intertidal areas, along beaches in wet sand and surf cast kelp, in foredune areas of dry sand above the high tide, on salt pans, and along the edges of salt marshes and salt ponds. The snowy plover is primarily a run and glean type of forager.

Human disturbance, predation, and inclement weather, combined with the loss of nesting habitat to urban development and the encroachment of introduced beachgrass (*Ammophila arenaria*), have led to an overall decline in the breeding and wintering population of the western snowy plover along the Pacific Coast. In southern California, the very large human population and resulting recreation activities have

precluded the western snowy plover from breeding on historic beach strand nesting habitat. As a result of these factors, the Pacific coast population of the western snowy plover was federally-listed as threatened in 1993.

The salt pond levees on the San Diego Bay NWR represent one of only a few locations where snowy plover breed in southern California. Similar to the California least tern, the snowy plovers that nest on the salt pond levees typically nest on the interior levees on the east side of the Otay River. Wintering western snowy plovers are occasionally observed foraging on the tidal flats in the Otay River channel.

Salt Marsh Bird's-Beak (*Cordylanthus maritimus maritimus*)

Salt marsh bird's-beak is an annual plant that typically grows in the upper elevations of tidal salt marsh habitat, and can occasionally be found in nontidal salt marsh. One of three subspecies, *Cordylanthus maritimus maritimus* occurs in coastal marshes from northern Baja California and from San Diego County to Santa Barbara County.

A hemiparasitic plant, salt marsh bird's-beak is believed to derive water and perhaps nutrients through specialized root connections with other species (*USFWS 1985*). It is often found in association with pickleweed, shore grass, salt grass, Frankenia, and sea lavender. Studies indicate that freshwater influence in the spring encourages germination and that salinities at the time of germination usually cannot exceed 12 ppt. Germination and flowering usually spans May to October but can sometimes occur during the winter. Pollination by upland, native bees is considered important to seed production, and yearly population numbers depend directly on seed dispersal and a site that provides the precise conditions required for germination.

Colonies of salt marsh bird's beak are found in only a few scattered salt marsh habitats between Santa Barbara and San Diego Counties. The subspecies was listed as endangered in 1970 due to destruction and degradation of southern California's coastal salt marsh systems. In San Diego County, it is currently found at Sweetwater Marsh, Naval Radio Receiving Facility (YMCA Surf Camp site), and Tijuana Slough. Although it has not been observed in any areas located in proximity to the project site, there remains a potential for it to occur in nearby salt marsh habitat.

State-Listed Species. The California least tern, light-footed clapper rail, California brown pelican, and salt marsh bird's beak are also listed as endangered by the State of California. The Belding's savannah sparrow, another species listed by the State of California as endangered, also occurs in the vicinity of the project site.

Belding's Savannah Sparrow (*Passerculus sandwichensis beldingi*)

The Belding's savannah sparrow (Belding's) is one of only two wetland-dependant avian species that reside year-round in the coastal salt marshes of southern California (*Powell and Collier 1998*). This salt marsh species is therefore reliant upon coastal salt marsh habitat for all of its life history requirements. This subspecies ranges along

the southern California coast from Santa Barbara County (Goleta Slough) in the north to El Rosario, Baja California, Mexico in the south (*James and Stadlander 1991*).

Belding's generally nests within dense stands of pickleweed. Breeding territories can be very small and the birds nest semi-colonially or locally concentrated within a larger block of habitat (*Zemba and Hoffman 2002*). The main factors that influence the long-term survivability of this subspecies are the health and security of its habitat. Human impacts, such as trespassing into closed areas, off-trail use in areas open to the public, and domestic and feral pets entering the marsh, continue to represent a serious threat to the long-term survivability of the Belding's savannah sparrow.

This subspecies was listed as endangered by the State of California in 1974 due to the development, degradation, and fragmentation of coastal salt marsh habitat as numbers of Belding's savannah sparrows were observed to have decreased dramatically (*Zemba et al. 1988*). Because of the secretive nature of this sparrow, it can be difficult to obtain accurate population estimates (*Zemba et al. 1988*). The population estimate for Belding's in California increased from 1,084 pairs in 1973 to 2,902 pairs in 2001 (*Zemba and Hoffman 2002*). However, statewide censuses of Belding's savannah sparrows reveal wide fluctuations in local population sizes.

Belding's surveys conducted every five years since 1986 show a regular presence, but fluctuating numbers, within the San Diego Bay NWR. In 2001 on the South San Diego Bay Unit, 98 territories were identified, with 58 territories observed along the Otay River channel. Another 27 territories were identified within the ribbon of pickleweed that grows along the outer levees of the salt works. Belding's occur in proximity to the project site, particularly along the Otay River channel, but no Belding's territories have been document within the project site.

Species of Concern and Other Special Status Species. The 1988 amendment to the Fish and Wildlife Conservation Act mandates the Service to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Endangered Species Act of 1973." The most recent effort to carry out this proactive conservation mandate is the approval of the Service's report, Birds of Conservation Concern 2002. The bird species identified are primarily derived from prioritization scores from three major bird conservation plans: The Partners in Flight, U.S. Shorebird Conservation Plan, and North American Waterbird Conservation Plan (*Kushlan et al. 2002*). Birds included in the Birds of Conservation Concern 2002 report are deemed priorities for conservation action. These lists are to be consulted in accordance with Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds."

Birds of Conservation Concern supported by the San Diego Bay NWR are included in the Bird Conservation Region 32 (Coastal California) List, USFWS Region 1 List, and the National List. Table 3 lists the Birds of Conservation Concern that are known to occur within the vicinity of the project site.

Table 3 Birds of Conservation Concern Occurring in the Vicinity of the Project Site						
Common Name	Scientific Name	Foraging Habitat(s)	Abundance	Included on BCC List		
				BCR 32	Region 1	U.S. ¹
Reddish egret	<i>Egretta rufescens</i>	Wetlands	Rare	No	No	Yes
Northern harrier	<i>Circus cyaneus</i>	Salt Marsh	Common	No	No	Yes
Peregrine falcon	<i>Falco peregrinus</i>	Uplands, Salt Marsh	Occasional	Yes	Yes	Yes
Prairie falcon	<i>Falco mexicanus</i>	Uplands	Occasional	Yes	Yes	Yes
Pacific golden plover	<i>Pluvialis dominica fulva</i>	Intertidal	Rare	No	No	Yes
Whimbrel	<i>Numenius phaeopus hudsonicus</i>	Intertidal, Salt Ponds	Seasonally Common	Yes	Yes	Yes
Long-billed curlew	<i>Numenius americanus</i>	Intertidal	Common	Yes	Yes	Yes
Marbled godwit	<i>Limosa fedoa fedoa</i>	Intertidal, Salt Ponds	Common	Yes	Yes	Yes
Black turnstone	<i>Arenaria melanocephala</i>	Intertidal, Salt Ponds	Common	Yes	Yes	Yes
Red knot	<i>Calidris canutus</i>	Intertidal, Salt Ponds	Seasonally Common	Yes	Yes	Yes
Short-billed dowitcher	<i>Limnodromus griseus</i>	Intertidal, Salt Ponds	Common	Yes	Yes	Yes
Wilson's phalarope	<i>Phalaropus tricolor</i>	Salt Ponds, Intertidal	Common in July	No	No	Yes
Gull-billed tern	<i>Geochelidon nilotica vanrossemi</i>	Intertidal, Uplands	Nests at Salt Works	Yes	Yes	Yes
Elegant tern	<i>Sterna elegans</i>	Open Water, Intertidal	Nests at Salt Works	Yes	Yes	No
Black skimmer	<i>Rynchops niger niger</i>	Open Water, Intertidal	Nests at Salt Works	Yes	Yes	Yes
Rufous hummingbird	<i>Selasphorus rufus</i>	Uplands	Common	No	No	Yes
Loggerhead shrike	<i>Lanius ludovicianus</i>	Uplands	Uncommon	Yes	Yes	Yes
Bewick's Wren	<i>Thryomanes bewickii</i>	Uplands	Common	No	No	Yes

¹National List

Source: (USFWS 2002)

C. Cultural Resources

A directed search for cultural resources was conducted of the project site on June 15, 2006 by Lou Ann Speulda-Drews, Historian/Historical Archaeologist for the U.S. Fish and Wildlife Service. The survey revealed that the ground surface has been previously disturbed by past activities associated with the construction and operation of the Coronado Belt Line and the current Bayside Bikeway. No artifacts or archaeological resource features were observed within the project area and no prehistoric sites have been recorded within the project boundary.

Two known historic resources are located within the immediate vicinity of the project site: the Western Salt Company Salt Works and the Coronado Belt Line Right-of-Way (CA-SDI-13,073H). A Historic Resources Evaluation Report (*Gustafson and Gregory 2001*) was prepared for the Western Salt Company Salt Works in association with the City of San Diego's Bayshore Bikeway proposal. The report includes the following statements regarding the significance of the site:

"The Western Salt Company Salt Works has operated for nearly one hundred years. The unique location provides the Salt Works the elements that are necessary for successful solar salt production. The site consists of a grouping of related resources that are united by design and function. The Salt Works satisfies the requirements for a district under the National Register of Historic Places. The National Register defines a district as a site that "possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development."

The report further states that the salt works, which retains a high degree of integrity, is eligible for inclusion on the NRHP under Criteria A and C of the National Register of Historic Places (36 CFR 60.4) because the facility played an important role in the solar salt industry in Southern California from 1916 to 1949 and the Salt Works embodies the distinctive characteristics of a solar salt processing facility.

The State Office of Historic Preservation (SHPO) in a letter to the Federal Highway Administration, dated May 28, 2002, concurred with the conclusions of the report and determined that the Western Salt Company Salt Works is eligible for inclusion on the NRHP. The contributing elements to the historic district include: the main processing plant, the pump house between Ponds 21 and 44, the electrical, generator and compressor buildings, the maintenance shop, the 18 condensing or evaporator ponds, the 14 crystallization salt ponds, the levees separating the condensing and crystallization ponds, the short section of narrow-gauge rail line as it crosses the San Diego & Arizona Eastern Railroad tracks, and the salt pile used for storage of salt after harvesting.

The other historic site is the Coronado Belt Line Right-of-Way (CA-SDI-13,073H), which occurs just outside the project boundary to the south along the current alignment of the Bayshore Bikeway. This line when completed in 1888 extended for about 20 miles from central San Diego, through National City and Chula Vista, around the south end of the bay, and up the Silver Strand to Coronado. Remnants of the original rail line exist along the south edge of the salt works, where the Belt Line was constructed on a berm that crossed coastal salt marsh and mudflats and in some locations further to the west along the existing Bayshore Bikeway. This site was evaluated for historic significance on various occasions. In 2001, SHPO determined that the site lacked the qualities necessary to be considered eligible for inclusion on the NRHP (*Weitze 2001*). In 2002, the California State Historical Resources Commission determined that the site would not be

included on the California Register of Historical Resources. The San Diego Historical Resources Board has designated the Belt Line a City of San Diego Historical Site.

D. Geology and Soils

Between 7th Street and drainage channel, the project site consists of soft Alluvial/Bay Deposits (*GEOCON 1986*). These deposits consist of loose to moderately dense, silty sands and soft to firm, sandy clays.

The Soil Survey characterizes the area located between the Bayshore Bikeway and the Otay River channel from the drainage channel east to the end of the project site as Huerhuero urban land complex (*USDA 1973*). This soil occurs on marine terraces where the material exposed in cuts consists of unconsolidated sandy marine sediments. This soil type is easily eroded.

No known faults exist within this area, however, the potential for liquefaction is relatively high within the area west of the drainage channel.

E. Hydrology/Water Quality

The major water courses in the project vicinity include the Otay River channel, located to the north of the project site from about 8th Street to 10th Street, and a drainage channel that crosses the proposed trail alignment near 10th Street. Both of these water courses, which are subject to tidal influence, convey freshwater flows, including storm water and urban runoff, into San Diego Bay. From 7th Street to 8th Street, the project site occurs to the south of Pond 10, an active solar salt pond. The pond contains bay water that flows into the pond during high tides. No water from the pond ever reenters San Diego Bay or the Otay River channel.

F. Land Use/Planning

Surrounding Land Uses. The project site and all of the lands and waters immediately to the north of the project site, including salt ponds, the Otay River channel, and portions of San Diego Bay, are located within the San Diego Bay NWR on land held in trust for the citizens of California and overseen by the State Lands Commission. In 1999, the State Lands Commission leased these areas to the Service for a period of 49 years, with an automatic extension to 66 years.

Uses to the south of the project site include the Bayshore Bikeway, which parallels the proposed project site for the entire length of the proposed trail. Beyond the bikeway, the uses include residential development from 7th Street to 8th Street. To the east of 8th Street, the prominent uses include an elementary school and the City of Imperial Beach Public Works facility.

Applicable Land Use Plans and Regulations.

San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan (CCP)

The goals of the CCP (*USFWS 2006*) include: 1) protecting, managing, enhancing and restoring coastal wetland and upland habitats within the Refuge; 2) supporting the recovery of federally and state listed species; 3) providing high quality foraging, resting, and breeding habitat for migratory birds; and 4) providing opportunities for compatible wildlife-dependent recreation and interpretation that foster public appreciation of the unique natural and cultural heritage of south San Diego Bay. Management of Refuge lands and resources occurs consistent with the goals and objectives of the CCP and the purposes for which the Refuge was established.

Imperial Beach General Plan

The Imperial Beach General Plan (*City of Imperial Beach 1994*) describes the area along the south end of San Diego Bay as the Bayview Neighborhood, and identifies the Imperial Beach bayfront as unique and environmentally sensitive. The General Plan encourages the evaluation of opportunities for increased public access to the bay, including a marina or other commercial recreational marina alternatives. The Plan also supports the creation of a recreational corridor along the Imperial Beach bayfront incorporating bicycles and pedestrian paths and suggests that additional public access be provided to the bayfront.

Bayshore Bikeway Plan

The Bayshore Bikeway Plan (*SANDAG 2006*) acknowledges the proposal to construct a pedestrian path to the north of the bikeway between 7th Street and 10th Street and describes the advantages to both bicyclists and pedestrians of providing a separated pedestrian path in this area.

California Coastal Act

Chapter 3 of the California Coastal Act includes the policies considered in reviewing coastal development permits and Local Coastal Plans. Each proposal submitted to the California Coastal Commission is evaluated for conformity with the policies of this chapter, which address issue such as the protection of coastal resources, public access, and recreational opportunities. The policies presented in Chapter 3 that are applicable to this proposal are outlined below.

Section 30233 -

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes are permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects. Such activities are limited to specific purposes including: restoration purposes and nature study, aquaculture, or similar resource dependent activities.

(b) Dredging and spoils disposal is to be planned and carried out to avoid significant disruption to marine and wildlife habitats and water circulation.

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary. Any alteration of coastal wetlands identified by the Department of Fish and Game, including, but not limited to, the 19 coastal wetlands identified in its report entitled, "Acquisition Priorities for the Coastal Wetlands of California", shall be limited to very minor incidental public facilities, restorative measures, nature study, and development in already developed parts of south San Diego Bay, if otherwise in accordance with this division.

Section 30240 -

(a) Environmentally sensitive habitat areas are to be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Section 30210 -

Maximum access, which is to be clearly posted, and recreational opportunities are to be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30212.5 -

Wherever appropriate and feasible, public facilities, including parking areas or facilities, are to be distributed throughout an area to mitigate against the impacts, social and otherwise, of overcrowding or overuse by the public of any single area.

G. Noise

Noise sensitive receptors in the vicinity of the proposed project include the residential uses located between 7th and 8th Streets to the south of the project site, and the elementary school located to the south of the Bayshore Bikeway.

H. Population/Housing (Environmental Justice)

The goal of environmental justice in the United States is to afford the same degree of protection from environmental and health hazards to all individuals and communities throughout the nation. To understand the current proposal's potential effect as it relates to environmental justice, the following information is presented regarding the economic and ethnic composite of the communities that surround the project site.

The U.S. Department of Housing and Urban Development (HUD) defines low income as 80 percent of the median family income for the area, subject to adjustment for areas with unusually high or low incomes or housing costs. According to the 2000 Census, the median household income in 1999 dollars was \$35,882 in the City of Imperial Beach (*SANDAG 2002*). This compares with an estimated countywide median household income of \$47,067. An income of \$37,650 would represent 80 percent of the median family income for the region; therefore, based on the figures available, Imperial Beach meets the definition of low income.

The ethnic composite of the areas surrounding the project site are presented in Table 4. For purposes of comparison, the percentage of minorities in the communities surrounding the project site is higher than the San Diego Region as a whole, except for the City of Coronado.

Table 4					
Ethnic Composite of the Cities in the Vicinity of the Project Site¹					
Ethnic Group	Coronado	Chula Vista	Imperial Beach	Otay Mesa Nestor (San Diego)²	San Diego Region
American Indian	5%	< 1%	< 1%	1%	< 1%
Asian	< 1%	11%	6%	15%	9%
Black	4%	4%	5%	7%	5%
Hawaiian & Pacific Islander	< 1%	< 1%	< 1%	1%	< 1%
Hispanic	10%	50%	40%	51%	27%
White	79%	32%	43%	20%	55%
Other	< 1%	< 1%	< 1%	< 1%	< 1%
2 or More Races	2%	3%	4%	5%	3%

¹Source: (*SANDAG 2002*, except as noted for Otay Mesa Nestor)

²Source: (*U.S. Census Bureau 2002*)

I. Recreation

The south end of San Diego Bay includes numerous opportunities for participating in both active and passive recreation. Opportunities for wildlife observation and photography are available along the Bayshore Bikeway, as well as at the Biological Study Area, located to the north of Pond 11. The Habitat Heroes site, located to the north of the Bayshore Bikeway near 13th Street, also provides opportunities for these wildlife-dependent recreational uses. Unauthorized access onto Refuge lands is also occurring to the north of the Bayshore Bikeway for various purposes including walking and bird watching.

The primary bicycle facility in the South Bay is the Bayshore Bikeway, a 26-mile bicycle facility being constructed around San Diego Bay. When completed, this bikeway will consist of combination of bicycle paths, lanes and routes providing convenient and scenic bicycle transportation around the bay. In the vicinity of south San Diego Bay, the off-

road portion of the Bayshore Bikeway currently extends from Coronado south to 13th Street in Imperial Beach. This segment of the bikeway provides spectacular views of the salt ponds and the southern end of the bay. The bike path is used by recreational and commuter bicyclists, as well as walkers, joggers, roller bladders, and bird watchers. An extension of this bike path is currently under construction within a portion of an existing railroad right-of-way to the east of 13th Street. When completed, users will no longer have to use public streets to travel between 13th Street in Imperial Beach and Main Street in Chula Vista.

A regional trail is proposed for the entire length of the Otay Valley Regional Park (OVRP). When completed, this trail will extend from the bay to the Otay Lakes Reservoirs. The boundaries of the western most segment of the OVRP overlap with the current boundary of the Refuge. The trail proposal for this area, as described in the Otay Valley Regional Park Trail Guidelines (*County of San Diego 2003*), is to extend a regional trail linkage under I-5 to connect with the existing bike path in Saturn Boulevard, ultimately providing a connection to the Bayshore Bikeway. Additional trails are being considered for inclusion in the Chula Vista Bayfront Redevelopment Plan. The current vision is to provide a connecting system of trails that will provide the public with access to and along the edge of San Diego Bay.

Boating and fishing opportunities in San Diego Bay are available further to the north of the project site in Chula Vista and National City. No boating or fishing is permitted in the vicinity of the project site.

J. Parking

Public parking in the vicinity of the proposed project site is currently available along several public streets in Imperial Beach. On-street parking is permitted near the southern end of the bay on the south side of Boulevard Avenue between 7th and 8th Streets and between Florida and 12th Streets. Parking is also available on 7th, 8th and 10th Streets and on Cherry Avenue between 10th Street and 11th Street. There is a public parking lot on 13th Street, which includes 13 parking spaces and was created to accommodate users on the Bayshore Bikeway. Much of this on-street parking serves the surrounding single and multi-family residents in the area. The parking spaces along Cherry Avenue provide overflow parking for the adjacent Bayside Elementary School and the City of Imperial Beach Public Works facility, although there are no signs posted in this area to control who uses the spaces. The City of Imperial Beach also plans to provide a public parking area immediately to the west of the Public Works building at the end of 10th Street, behind a portion of the elementary school. This lot will provide parking for the Bayshore Bikeway, as well as for the proposed walking trail.

K. Climate Change

Greenhouse Gas Emissions. Scientific evidence acknowledges that world climate is changing (*Bierbaum et al. 2007*) as indicated by increases in global surface temperature, altered precipitation patterns, warming of the oceans, sea level rise, increases in storm intensity, changes in wind patterns, and changes in ocean pH. This is significant because

“climate is a dominant factor influencing the distributions, structures, functions and services of ecosystems” (*CCSP 2008*). Climate change, defined as any change in climate over time, whether due to natural variability or as a result of human activity (*CCSP 2008*), can interact with other environmental changes to affect biodiversity and the future condition of ecosystems.

Climate change also poses a serious threat to the economic wellbeing, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snow pack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems (*Health and Safety Code, section 38501*).

The State of California attributes these changes in climate patterns to the accumulation of greenhouse gases (GHGs) in the atmosphere. These GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely associated with global warming (*State of California Office of Planning and Research 2008*). California State law defines GHG to include the following: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (*Health and Safety Code, section 38505(g)*). The most common GHG that results from human activity is carbon dioxide, followed by methane and nitrous oxide.

To avert the consequences of climate change, California Assembly Bill 32 establishes a state goal of reducing GHG emissions to 1990 levels by the year 2020 (a reduction of approximately 25 percent from forecast emission levels) with further reductions to follow. In 2007, the Air Resources Board (ARB) adopted a statewide 2020 GHG emissions limit and an emissions inventory, along with requirements to measure, track, and report GHG emissions by the industries it determined to be significant sources of GHG emissions. In addition, in December 2008, the ARB adopted a Scoping Plan outlining the State’s strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan, which proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, calls for a reduction in California’s carbon footprint. On a per-capita basis, the plan proposes to reduce annual emissions of 14 tons of carbon dioxide equivalent per person down to about 10 tons per person by 2020.

Current GHG emissions related to the project area include the personal vehicle usage for birders and walkers to drive to the project site. Approximately 675 pedestrians visit the project area each week. If there are two pedestrians per vehicle, there are approximately 338 vehicle trips per week to the site.

Sea Level Rise. Water levels in San Diego Bay vary with the astronomical tides and these tides are of the mixed, semi-diurnal type, with two highs and two lows of unequal height occurring each lunar day (an average duration of 24.4 hours). The water levels in the bay are the highest during high tide. To date, the highest measured water level in San Diego Bay is 7.70 feet NAVD88. Currently, the area adjacent to the portion of the project site that extends from 8th Street to 10th Street is subject to tidal influence, but the tides are never high enough to inundate the proposed trail alignment. The portion of the trail alignment between 7th and 8th Street is adjacent to Pond 10, which is not currently influenced by the tides. At some point in the future, the Service proposes to restore Pond 10 to tidal influence; however, this will not subject the trail to tidal inundation under current conditions. The estimated elevation of the proposed trail ranges from 9 feet NAVD88 at the west end to 15 feet NAVD88 at the east end. Thus, the lowest part of the proposed trail alignment is currently 1.3 feet (15.6 inches) above the highest observed tide.

Global sea level rise is a well-documented phenomenon and the rate of sea level rise is increasing (*CALFED 2007*). The CALFED Independent Science Board (*CALFED 2007*) states “the most recent empirical models project a mid-range rise this century of 70-100 centimeters (cm) (28-39 inches) with a full range of variability of 50-140 cm (20-55 inches).” This is based on modeling conducted by Rahmstorf (*2007*), who considered the relationship between global mean surface temperature and global sea-level rise in projecting sea level rise for the period 1990 through 2100.

7. Environmental Consequences

The discussion included in this section, as well as the issues addressed in the Initial Study Checklist (Appendix A), provide information needed for making informed decisions on the proposed project. Only those issues that are potentially affected by the proposed project are discussed in detail in this section. The Initial Study Checklist (Appendix A) demonstrates consideration of all potential environmental effects resulting from the proposed project. The direct, indirect, and cumulative environmental consequences of the Proposed Action, as well as each of the alternatives described in Section 1, are analyzed below.

A. Effects to Aesthetics, Visual Quality, and Topography

Proposed Action – Construction of a six-foot-wide, 2,060-foot-long pedestrian trail along the south end of San Diego Bay would require only minimal land alteration because of the relatively flat nature of the project site. For the most part, site preparation would involve removal of vegetation, where it exists, and minor leveling of the area within the six-foot-wide trail. Additional grading would be required at the proposed location for the bridge, where the difference in elevation between the east and west side of the channel banks would have to be eliminated either by removing some soil from the east side to reduce the elevation by about two feet or adding some fill to the west side to increase the elevation by about two feet. The extent of grading at this location would be minimal.

No views of San Diego Bay or its associated wetlands would be blocked by the proposed trail, pedestrian bridge, associated overlook area, or from new post and cable fencing to be installed along the north side of the trail. In addition, these project elements would not substantially alter the current character of the area as viewed from the Bayshore Bikeway, State Route 75, or the adjacent community. Therefore, no significant adverse impacts related to topography and visual quality would occur.

The restoration of approximately 8,712 square feet (0.2 acre) of highly disturbed, salt marsh vegetation in the area between the proposed trail alignment and Pond 10 would eliminate exposed areas of soil where continued trampling of vegetation has denuded the site. This aspect of the project would have a positive impact on visual quality in the vicinity of 7th Street.

Alternative 1 - If the trail is not constructed, the topographic and visual character of the project site would remain in its current state. No grading would occur within the project area and the proposed pedestrian bridge would not be installed. However, the existing character and visual quality of the project site could continue to deteriorate if unauthorized access between the bike path and Pond 10 cannot be controlled.

Alternative 2 - The impacts to topography and visual quality under this alternative would be similar to those described for the proposed action for the portion of the project that extends from 8th Street east to 10th Street. Between 7th Street and 8th Street, the trail would not be constructed and in that area, the effects would be similar to those described in Alternative 1.

B. Effects to Biological Resources

Vegetation/Habitat.

Proposed Action – Impacts to existing vegetation within the project site will occur as a result of trail, bridge, and overlook construction. In total, 11,760 square feet of non-native, invasive weeds and 1,170 square feet of disturbed high salt marsh vegetation would be removed. Another 180 square feet of tidally-influenced salt marsh habitat would experience shading impacts from the proposed bridge. Impacts to salt marsh habitat, which would total 1,350 square feet (0.03 acre), would be off-set by the proposal to restore 8,712 square feet (0.2 acre) of high salt marsh vegetation. This would represent a mitigation ratio of more than six to one and a net increase of 0.17 acre of wetland habitat.

Any loss of salt marsh vegetation represents a significant impact that requires mitigation. The California Coastal Commission requires that wetland mitigation in excess of one to one (i.e., one wetland acre must be restored or created for each acre lost through development) be provided for losses to wetland habitat. Typically, a mitigation ratio of four to one is required by the Coastal Commission to compensate for wetland acreage and functional capacity lost during the reestablishment and maturation of the mitigation area. Further, enhancement of degraded habitat may be included as a component of a

mitigation plan if the total package results in an acceptable mitigation ratio. The mitigation ratio of four to one is also required for impacts to salt marsh habitat in the City of Chula Vista Multiple Species Conservation Plan.

Based on these established thresholds, the loss of high salt marsh vegetation would represent a significant adverse effect; however, the proposal to restore 8,712 square feet (0.2 acre) of high salt marsh vegetation, which represents a mitigation ratio of greater than six to one, would reduce this effect to below a level of significance. In addition, when restored, the mitigation area would provide habitat of greater biological productivity than the area lost.

Mitigation Measure #1 - The project proposes to restore approximately 8,712 square feet (0.2 acre) of high salt marsh vegetation between the edge of Pond 10 and the proposed trail. In addition, the establishment of a defined trail in this area, along with appropriate fencing and signage, would eliminate current unauthorized access into sensitive habitat areas thereby reducing any further loss of salt marsh habitat along the edge of Pond 10.

The salt marsh restoration plan proposes to prepare the disturbed soil for seeding and planting (e.g., scarifying the disturbed, compacted areas and amending the soil with kelp mulch); seed the prepared areas with seeds collected from the general project vicinity; transplant those plants to be impacted by trail construction into the restoration area; and actively maintain and monitor the site for three years or until high marsh vegetation achieves 80 percent coverage. Because the restoration site is part of the San Diego Bay NWR, general maintenance and monitoring of the site will occur in perpetuity and will be the responsibility of the Refuge.

Although the proposal may include some sections of pin foundation trail construction, which would avoid the removal of vegetation, the salt marsh vegetation located within the trail alignment would still be adversely affected by shading impacts. Therefore, the mitigation described above would also apply to the project if a combination of pin foundation trail construction and stabilized decomposed granite is used for the section of trail that extends from 7th Street to 100 feet east of 7th Street (refer to Section 5 for additional information about pin foundation construction).

In addition to habitat restoration, construction of a formal trail to the north of the Bayshore Bikeway is intended to eliminate unauthorized public access along the edge of Pond 10 and redirect this access as far south of the pond as possible. Under current conditions, the public is using the area between Pond 10 and the bike path as a *de facto* public trail. Through the establishment of a defined public path, currently occurring direct impacts to salt marsh vegetation would be eliminated.

To protect the restored habitat, as well as to protect those areas outside the trail alignment that already support salt marsh vegetation, fencing and/or signage will be installed along the north side of the trail to minimize the potential for off-trail activity. The Refuge will

also expand its current outreach activities in an effort to increase public awareness of the need to stay on the trail and protect sensitive resources along the south end of San Diego Bay.

The loss of 11,760 square feet of non-native, invasive weeds is not considered a significant adverse effect; therefore, no mitigation is required. In addition, the removal of approximately 10 to 15 native plants installed by volunteers within the area would not represent a significant impact.

Although not part of the current project, future Refuge actions in the project vicinity include: 1) replacing the non-native, weedy vegetation growing on the slope to the north of the Bayshore Bikeway with native species and 2) restoring the non-native upland vegetation to the north of the proposed trail alignment between 8th Street and 10th Street with appropriate native upland species to improve habitat quality for native wildlife. These projects will likely involve community volunteer support, which will provide an additional opportunity for public outreach. No impacts to native vegetation would result from these proposals.

Alternative 1 - Under this alternative, no trail would be constructed, therefore, no native or non-native vegetation would be removed. The loss of native vegetation as a result of unauthorized access onto Refuge lands would however continue as no defined pathway would be provided that could be used to direct potential users away from sensitive areas. In addition, no habitat restoration between the Bayshore Bikeway and the edge of Pond 10 would occur.

Alternative 2 - Under this alternative, the trail would start at 8th Street, avoiding the need to remove native salt marsh vegetation at the western end of the project site. The project would still require the removal of 11,760 square feet of non-native invasive weeds and would result in shading impacts over 180 square feet of salt marsh habitat. This would require up to 720 square feet of salt marsh restoration. The adverse impacts to high salt marsh vegetation in the vicinity of 7th Street would likely continue as no defined pathway would be provided under this alternative to direct users away from sensitive areas.

Wildlife.

Proposed Action - The project site is located adjacent to habitat utilized by a variety of migratory birds, including seabirds, shorebirds, waterfowl, and herons. Pond 10, which abuts the portion of the project site between 7th Street and 8th Street, does not include any significant vegetation, but does provide limited shorebird foraging around the edges of the pond. In addition, the pond provides rafting habitat for various waterfowl and gulls, as well as foraging habitat for terns and skimmers. Because of the existing level of human activity and associated noise occurring along the Bayshore Bikeway and along the unauthorized pathway that has been created to the north of the bikeway, the use of the proposed trail along the north side of the bikeway is not expected to result in any additional disturbance to migratory birds. Although the historic levels of disturbance in this area are relatively low, shorebirds tend to avoid congregating immediately along the

edge of the pond, choosing to forage in the shallow waters just north of the pond edge. The proposed project would provide some benefit with respect to disturbance by establishing a defined pathway along the southern edge of the Refuge which would move current users further away from the edge of the pond.

Alternative 1 - Because the level of disturbance would not increase significantly under the proposed action, the effects of not constructing the trail would be similar to the effects described for the proposed action. However, under this alternative, no defined pathway would be provided and unauthorized trail use closer to the edge of the pond would continue.

Alternative 2 – The outcome of implementing this alternative would have effects on wildlife that are similar to those described for Alternative 1.

Effects to Endangered and Threatened Species and Other Species of Concern.

Proposed Action – No Federally or State listed species or other species of concern have been observed within the project site, however, California least tern occasionally forage in Pond 10 and least terns and western snowy plovers can be observed foraging in the Otay River channel. In addition, Belding's savannah sparrows occupy the salt marsh habitat located along the Otay River channel in the vicinity of 8th Street. All of these areas occur to the north of the project site, however, the distances between the trail users and these foraging areas are adequate to avoid disturbance.

The California least tern and western snowy plover both nest on interior levees of the salt ponds, to the east of the Otay River channel. This is well away from the influence of public uses on the proposed trail. Belding's savannah sparrow nesting habitat is also adequately separated from the proposed trail. Therefore, no adverse effects to these species or other species of concern are anticipated. Although not observed in the wetland area immediately to the east of 8th Street beyond the boundaries of the project site, there is the potential for light-footed clapper rails and the endangered plant, salt marsh bird's-beak, to occur in this area in the future. Fencing and other measures to be implemented as part of the project would minimize any potential for off-trail impacts to these species to below a level of significance (see discussion below). No impacts to the California brown pelican are anticipated as a result of this project.

Off-trail activity in the area to the north of the trail could have potentially significant impacts to several listed species and other species of concern. Establishing a designated trail alignment, in association with the installation of signage and appropriate fencing, as is proposed under this action, would reduce the potential for off trail use and minimize the potential for adverse effects to these species. Incorporation of the following measure into the scope of the project will reduce potential impacts related to potential off-trail activity to below a level of significance.

Mitigation Measure #2 – To minimize the potential for off-trail activity that could impact sensitive species, appropriate measures, including fencing, signage, public outreach, and when necessary enforcement, will be implemented along the north side of the trail to discourage and minimize off-trail activity.

Although disturbance related to appropriate trail use is not expected to impact listed or sensitive species, construction activity could generate noise or other disturbance that could impact breeding birds during the nesting season. Incorporation of the following measure into the scope of the project will reduce potential impacts related to construction disturbance to below a level of significance.

Mitigation Measure #3 - To reduce the potential for impacts to listed species or other species of concern, particularly least terns, snowy plovers, and Belding's savannah sparrows foraging in the vicinity of the project during the nesting season, construction of the trail would be restricted to the non-breeding season (September 15 – February 15).

Alternative 1 - No impacts to listed species would be anticipated under this alternative.

Alternative 2 - The impacts to listed species under this alternative would be similar to those described for the proposed action.

C. Effects to Cultural Resources

Proposed Action – Construction of the trail and revegetation of existing disturbed areas in the vicinity of 7th Street will require limited modification to the soil surface, generally less than five inches in depth. In addition, there are no previously recorded prehistoric sites in the immediate vicinity of the proposed trail and no surface evidence of any sites was identified during a directed search for cultural resources. Therefore, no adverse effects to prehistoric resources are anticipated. In the event that cultural resources are discovered during implementation of the project, all ground disturbing activity will be halted and the Service's Regional Archaeologist will be notified.

In addition, the project will not result in the alteration of any contributing elements of the Western Salt Company Salt Works, nor will it diminish the qualities that make the Western Salt facility a significant resource. Similarly, no adverse effects to the Coronado Belt Line Right-of-Way are anticipated.

Alternative 1 - No action is proposed under this alternative, therefore, no adverse effects to cultural resources would occur.

Alternative 2 - The potential effects to cultural resources as a result of implementing this alternative would be the same as those described for the proposed action.

D. Effects to Geology and Soils

Proposed Action - The relatively flat nature of the project site and the proposal to construct a stabilized pathway will minimize the potential for soil erosion in the vicinity of the trail. Proper trail alignment and appropriate cross grades will ensure that storm water flows across the trail rather than down the trail, avoiding the erosion impacts associated with improper trail drainage. The potential for groundshaking and liquefaction in this area would not result in adverse effects to the proposed trail and the proposed bridge would be constructed on marine terrace deposits which are not highly susceptible to liquefaction. Therefore, no significant adverse effects to the proposed trail are anticipated as a result of existing conditions related to geology or soils.

The Huerhuero urban land complex soils the overlay the marine terrace deposits along the southern edge of Otay River channel are easily eroded if disturbed. To avoid or minimize erosion and/or sedimentation into the river, the following measures have been incorporated into the design of the observation area to be constructed at 10th Street: the observation area and future interpretive elements will be sited to maintain a 20-foot-buffer from the edge of the slope; appropriate fencing will be installed along the northern perimeter of observation area; the observation area will be graded to direct runoff toward the street and away from adjacent slopes; and the surface of the observation area will be stabilized to reduce the potential for erosion. These measures, which are part of the project design, will reduce the potential for adverse effects to below a level of significance.

Alternative 1 - No effects related to geology or soils would be realized under this alternative.

Alternative 2 - The impacts to geology and soils under this alternative would be similar to those described for the proposed action, except for that portion of the project site located between 7th Street to 8th Street where no trail construction is proposed under this alternative.

E. Effects to Hydrology/Water Quality

The implementation of the proposed project, including construction of the trail, bridge, and overlook, will result in the exposure of disturbed soil during construction and will require the presence of construction equipment within the project boundary. These activities could result in significant adverse effects to water quality if appropriate measures are not implemented to avoid and minimize impacts to adjacent water bodies, including the Otay River channel, San Diego Bay, and the small drainage channel that cross the project site. Potentially significant environmental effects include: 1) increased sedimentation during and immediately following grading, and 2) the generation and release of pollutants from construction equipment. Because this project involves only limited grade (surface disturbance of less than five inches along the length of the trail), no impacts to groundwater or existing drainage patterns within the site are anticipated.

Mitigation Measure #4 (Best Management Practices) – *To minimize the potential for erosion and to avoid the introduction of sediment into Pond 10, the Otay River channel, and adjacent wetlands, best management practices (BMPs), developed during final project design, will be implemented during project construction. At a minimum, the final design will incorporate the following BMPs: 1) installation of silt fencing to the north of the proposed trail and overlook construction area prior to initiating any ground disturbance; 2) the use of fiber rolls in addition to silt fencing around any areas of excavation necessary to accommodate the installation of the pedestrian bridge; 3) limiting ground disturbance associated with trail, bridge, and overlook construction to the footprint of the proposed facility to the extent feasible; and 4) confining, to the maximum extent possible, all heavy equipment activity (e.g., crane, dump trucks) to the adjacent paved surfaces. To avoid impacts to water quality, the following additional BMPs would be implemented: 1) construction equipment will not be stored nor will it be fueled or repaired on the project site; all equipment will be inspected for leaks immediately prior to the start of project activities and regularly inspected during construction; an emergency spill response plan will be developed prior to initiation of project construction; and a spill kit will be maintained on-site throughout the duration of the proposed project.*

F. Effects to Land Use/Planning

Proposed Action – No changes in land use are proposed as a result of this project. Current recreational uses would continue, but would be accommodated in a more environmentally sensitive manner. No impacts related to land use compatibility are therefore anticipated as a result of this project.

The proposal is also consistent with Imperial Beach's General Plan, which supports the creation of a recreational corridor along the Imperial Beach bayfront, and the proposal is consistent with the Bayshore Bikeway Plan, which acknowledges the future construction of the proposed trail. Additionally, the provision of this trail and the revegetation of disturbed coastal salt marsh vegetation would assist in achieving the goals of the CCP.

Under the federal Coastal Zone Management Act, the Coastal Commission must review this proposal to determine whether it is consistent, to the maximum extent practicable, with the Coastal Act. In doing so, the Coastal Commission, pursuant to Section 30233 of the Coastal Act, must find the proposed trail improvements and wetland restoration are a permitted use in wetlands. The permitted uses include "restoration purposes" and "nature study." The proposed trail and its associated wildlife observation areas are necessary components of the Service's comprehensive restoration and public use plan for the San Diego Bay NWR. The new trail will require the removal of approximately 1,170 square feet of disturbed, non-tidal high coastal salt marsh vegetation and shading over approximately 180 square feet of tidally influenced salt marsh vegetation. These impacts would be off-set by the restoration of 8,710 square feet (0.2 acres) of high salt marsh vegetation adjacent to the proposed trail.

The purpose of the trail is to eliminate ongoing destruction of high salt marsh vegetation as a result of the unauthorized access by pedestrians and bicyclists along the edge of Pond 10, as well as to provide opportunities and appropriate access for wildlife observation and interpretation along San Diego Bay that are compatible with Refuge resources and will foster an appreciation for the need to protect these resources. Thus, the wetland restoration and trail are proposed for wetland restoration purposes and to facilitate nature study. Further, as required by Section 20233, there is no feasible less environmentally damaging alternative. There is no location in this portion of the project site in which impacts to high salt marsh vegetation can be avoided, and in the area where these impacts cannot be avoided, the trail will be located as close to the slope of the Bayshore Bikeway as possible. If a designated trail is not provided in this area, current impacts to salt marsh vegetation, which are significantly greater than those proposed by the current project, would continue. Therefore, the proposed action is the least environmentally damaging feasible alternative.

Alternative 1 - No new actions are proposed under this alternative, therefore, no impacts related to land use are anticipated as a result of this project.

Alternative 2 – Under this alternative, no loss of high coastal salt marsh vegetation would occur in the area between 7th Street and 8th Street. However, it is likely that unauthorized access into this area would continue and loss of coastal salt marsh vegetation associated with this access would continue. The potential effects to land use as a result of implementing this alternative would be the same as those described for the proposed action for the portion of the trail that extends from 8th Street to 10th Street.

G. Effects to Ambient Noise Levels

Proposed Action - Use of the proposed trail and observation area would not generate noise levels above those currently generated from use on the adjacent Bayshore Bikeway; therefore, no significant adverse effects to sensitive noise receptors are anticipated as a result of the public use of these facilities. Temporary increases in noise would occur during construction, however, to avoid adverse impacts to adjacent sensitive noise receptors, no construction activity would be permitted between the hours of 6:00 PM and 7:00 AM daily. (Potential noise impacts to sensitive biological resources are addressed under Section 7B.)

Alternative 1 - No additional public uses would be accommodated along the south end of San Diego Bay under this alternative, resulting in no new sources of noise, including temporary construction noise.

Alternative 2 - The effects to ambient noise levels would be similar to those described under the proposed action, however, construction activities would not occur between 7th and 8th Street where the majority of the residential uses are located that abut the project site.

H. Effects to Population/Housing (Environmental Justice)

Proposed Action - The proposed action would not result in disproportionate adverse human health impacts or environmental effects to low-income or minority populations. The project would provide the residents of the south bay, a low-income community, with wildlife-oriented recreational opportunities that can be easily accessed by public transportation, bicycle, and on foot.

Alternative 1 - Under this alternative, the proposed trail would not be constructed and the benefits to the residents of the south bay related to wildlife-oriented recreational opportunities associated with the proposed action would not be realized.

Alternative 2 - The potential effects of this alternative for environmental justice issues would be the same as those described for the proposed action.

I. Effects to Recreation

Proposed Action – Construction activity associated with the installation of the trail could result in some limited disruptions to bicycle traffic flow on the Bayshore Bikeway. Access across the bike path would be needed to deliver decomposed granite to the site and the bike path may need to be closed for a few hours while the bridge is set in place by a crane. These disruptions would be temporary and would only affect bike travel for limited periods of time during a particular day. During these periods of disruption, traffic control would be provided to inform oncoming bike traffic of any temporary closures and associated detours. These activities will be coordinated with the City of Imperial Beach, which maintains this portion of the Bayshore Bikeway. To further limit the effect of these disruptions, no construction activity would occur on the weekends. With these measures incorporated into the project design, no significant adverse effects to bicycle traffic on the Bayshore Bikeway would occur as a result of this project.

After completion, the proposed trail will provide an enhanced recreational experience. The trail is expected to reduce user conflicts on the Bayshore Bikeway by moving pedestrian traffic onto a separated pathway and overlook areas are proposed to accommodate bird watchers and photographers who currently stop on the bike path to conduct their wildlife observation and photography activities.

Alternative 1 - No temporary disruption of bike travel on the Bayshore Bikeway would occur under this alternative, but user conflicts on the bike path would continue.

Alternative 2 - The effects to recreation would be similar to those described under the proposed action.

J. Effects to Parking

Proposed Action – The construction of a pedestrian trail along the north side of the Bayshore Bikeway will accommodate existing users, as well as generate additional new users. Some of these new users will come from the adjacent community, and others will access the new trail either from the adjacent Bayshore Bikeway or via a personal vehicle.

A small parking lot is currently available at the end of 13th Street, and on-street parking is available on Boulevard Avenue, 7th Street, Delaware Street, 8th Street, and Cherry Avenue. The number of anticipated new users is not expected to significantly impact the availability of on-street parking for local residents. Further, the City of Imperial Beach is currently working on plans to construct a public parking lot at the north end of 10th Street, which will reduce the need for future trail users to park on the adjacent streets. Once that parking lot is opened, the Refuge will make that information available to the public via its website and other publications.

Alternative 1 - Without the new pedestrian trail, some potential users may chose not to use this area for bird observation or walking, however, other users would continue to either walk on the bike path or use the unauthorized pathways that have been created between the bike path and Pond 10. Therefore, the effects to on-street parking availability within the adjacent neighborhood could be less than or similar to the proposed action.

Alternative 2 - The potential effects to on-street parking availability as a result of implementing this alternative would be similar to those described for the proposed action.

K. Effects Related to Climate Change

Greenhouse Gas Emissions. *Proposed Action* - The project will not have a significant climate change impact, either individually or cumulatively. Once constructed, the project will not be a new source of GHG emissions. Approximately 675 pedestrians currently use the bike trail per week. Although the new trail will create a more pleasant pedestrian experience for current users, it is relatively short, less than 0.5 miles in length, and it is not opening up a new area to access (i.e., there is an existing bike trail in this location). Therefore, it is not anticipated that the new pedestrian trail will create new birders and walkers. Instead, the trail will attract birders and walkers who already use the trail as well as birders and walkers who currently drive to other locations to walk and observe birds. In addition, by reducing conflicts among trail users, the project may result in more local residents commuting by bicycle. Thus, there will not be a significant net increase in GHG emissions resulting from vehicle trips generated by this project.

During construction of the project, there will be a short-term, less than significant increase in GHG emissions. Table 4 provides information about the two phases of trail construction: the types of construction equipment, the schedule, and the estimated CO₂ emissions. The values in Table 4 were used to estimate CO₂ emissions using the Urbemis 2007 v 9.2.4 model. The emissions identified in Table 4 include emissions resulting from construction workers commuting to the work site.

The GHG emissions from construction have been minimized to the extent possible. All excavated materials will be used on-site (to raise the elevation of the trail as it approaches the western end of the proposed bridge), thus eliminating the need for dump trucks to haul away excavated materials. Purchasing decomposed granite for trail surfacing from a local source will be a priority of the project in order to minimize the miles traveled for

delivery to the site. The construction vehicles will use diesel fuel when possible. Finally, the Service will attempt to hire construction workers who live in reasonable proximity to the project site and will encourage workers to carpool or commute by bike or public transit when possible.

Table 4 Estimated Greenhouse Gas Emissions (calculated using Urbemis 2007 v. 9.2.4)			
Construction Phase	Equipment	Schedule	CO₂ emissions
Trail construction	Dump trucks (2, 20 cubic yard); Track cat (skid steer loader)	23 work days (9/15 – 10/16/09)	506.64 lbs CO ₂ /day
Bridge placement	Crane; Concrete pump truck	1 work day (10/19)	802.32 lbs CO ₂ /day
TOTAL			16,102 lbs CO₂ (7.3 metric tons)

Further, the CO₂ emissions resulting from project construction are mitigated to a small extent by the wetland restoration component of the project. CO₂ can be removed from the atmosphere by soil – plant interactions. Wetlands, especially salt marsh, sequester carbon at high rates (*Brevik and Homburg 2004*). The project will result in a net increase in vegetated wetlands of 0.173 acres, which will increase the ability of the site to sequester carbon. In addition, the proposed project will halt the ongoing decline of the site's ability to sequester carbon by preventing the destruction of wetlands due to unauthorized public access. Given that the only GHG emissions from this project are the result of the construction activities, the emissions resulting from construction have been minimized to the extent possible, and the project will enhance carbon sequestration by adding new wetland and halting ongoing destruction of existing wetland, the GHG emissions from this project are not significant.

Alternative 1 - Under this alternative, the proposed trail would not be constructed so the GHG emissions resulting from construction would not be realized. The ability of the site to sequester carbon would continue to decline as a result of the ongoing destruction of wetlands by unauthorized public access. The potential for increased bicycle commuters, and therefore fewer vehicle miles traveled, would be eliminated.

Alternative 2 - The potential effects of this alternative would be similar to those described for the proposed action; however, the amount of GHG emissions would be lower because less trail construction would be done. Ongoing destruction of wetlands by unauthorized public access between 7th Street and 8th Street would likely continue because no designated pathway would be provided for that area under this alternative.

Sea Level Rise. *Proposed Action* - The construction of the trail will not change the configuration of the bay's shore line, nor will it have any influence over the effect of sea level rise on surrounding infrastructure, including the Bayshore Bikeway or adjacent

development. The trail will however be impacted by sea level rise at some point this century based on current predictions for sea level rise (*Rahmstorf 2007*). Under the worst case scenario of 4.6 feet of sea level rise by 2100, the lowest portions of the trail (including a stretch of trail near 7th Street and another area just to the east of 8th Street) would be inundated during the highest high tides within approximately 30 years. Under the lower prediction of 1.7 feet of sea level rise by 2100, these portions of the trail would be inundated during the highest high tides within approximately 80 years. Inundation of the trail during the highest high tides would not pose a hazard to trail users because tidal flooding would be predictable and the trail could be closed when coastal flooding is anticipated. Because the rate of sea level rise is unknown and many various predictions exist (CALFED 2007), it is not possible to know exactly how long the lower sections of the proposed trail will remain above the mean tide line. Once sea level reaches a level in which the trail is routinely inundated by the tides, it will no longer be usable and measures will need to be taken to either move or permanently close the trail. An adaptive management approach will be taken by the Refuge to address the effect of sea level on the trail. Because sea level rise will likely happen incrementally, the Refuge will be able to manage the access to and location of the trail without posing a threat to trail users. Significant impacts to trail users due to sea level rise are therefore not anticipated and the trail itself will have no impact on the effects of sea level rise to adjacent development.

Alternative 1 - Under this alternative, the proposed trail would not be constructed so sea level rise would not be a factor.

Alternative 2 - The potential effects of this alternative would be similar to those described for the proposed action.

8. Cumulative Impacts of the Proposed Action

The proposal to restore 8,712 square feet (0.2 acre) of high salt marsh vegetation adjacent to Pond 10 and construct a designated pedestrian trail along the south end of San Diego Bay would not result in any significant adverse cumulative impacts to the environment. The impacts to salt marsh vegetation as a result of constructing the trail would be more than offset by the restoration proposals included as part of the project. In addition, the proposed trail is intended to eliminate unauthorized access along the edge of the pond, directing public use along a defined pathway and away from sensitive resources. BMPs to avoid erosion and sedimentation during construction would also avoid cumulative water quality impacts within San Diego Bay and the Otay River channel.

9. Agencies and Persons Consulted

The following agencies and/or individuals were contacted regarding this proposal:

City of Imperial Beach, Public Works and Community Development Departments
Stephan Vance, SANDAG
Lou Ann Speulda-Drews, Historical Archaeologist, U.S. Fish and Wildlife Service
Jody Ebsen, Regional Water Quality Control Board
Michelle Mattson, U.S. Army Corps of Engineers

Diana Lilly, California Coastal Commission
Paul Schlitt, California Department of Fish and Game
Tim Allison, San Diego Metropolitan Transit System (MTS)

(The proposal to construct a pedestrian pathway to the north of the Bayshore Bikeway was also addressed in the Final CCP/EIS for the San Diego Bay National Wildlife Refuge, which was distributed for public review and comment in 2006.)

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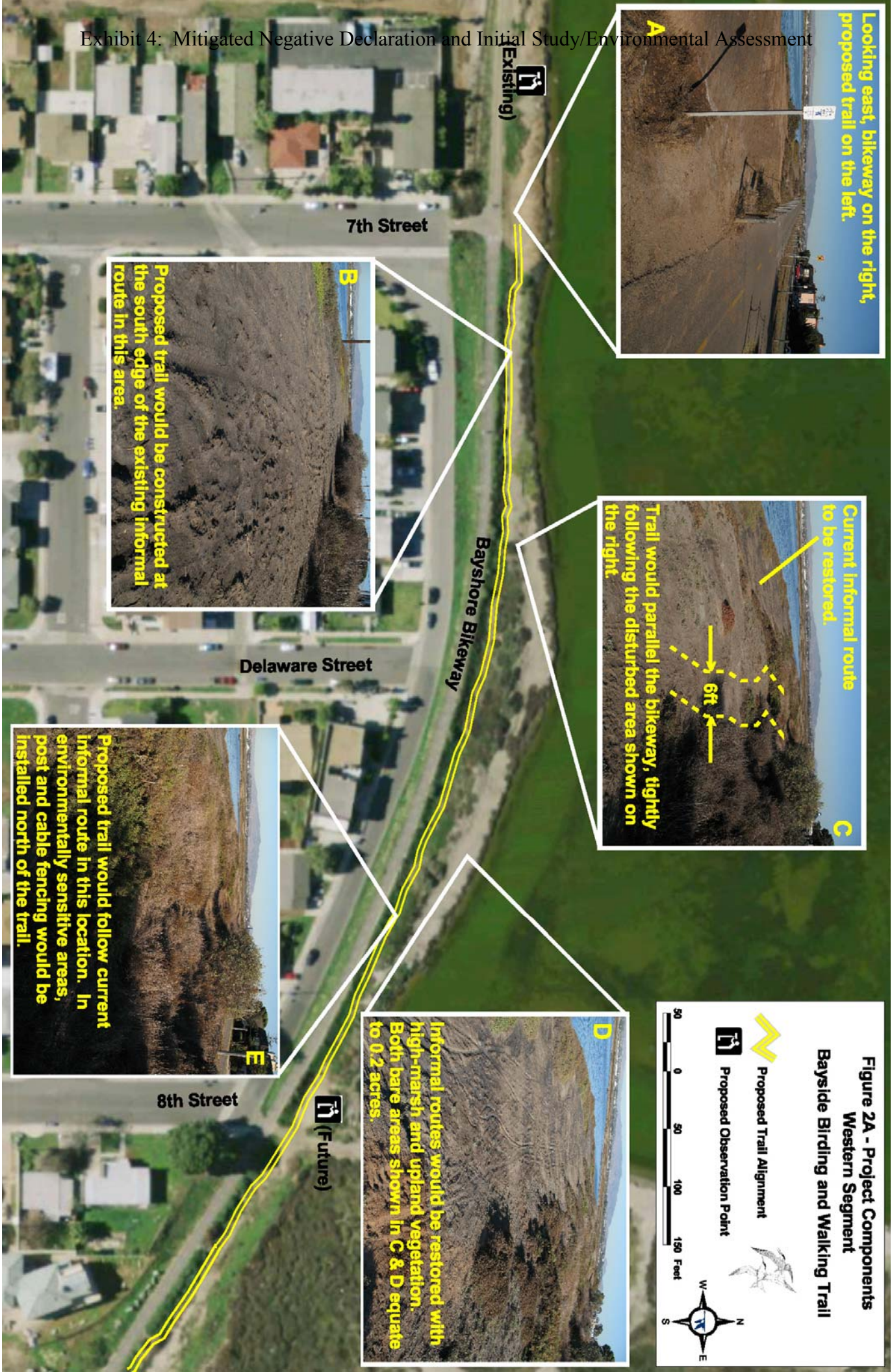
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Figures





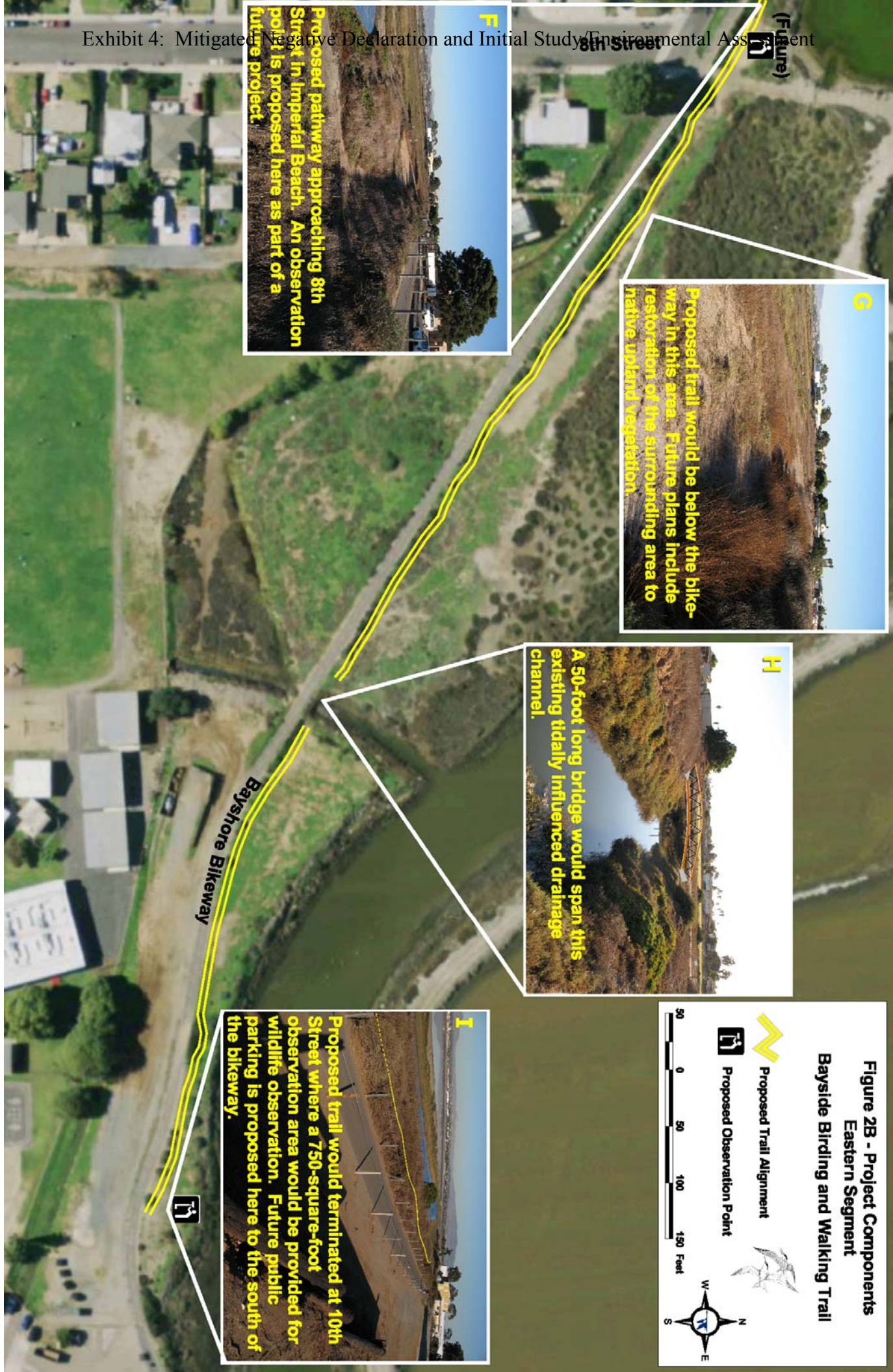
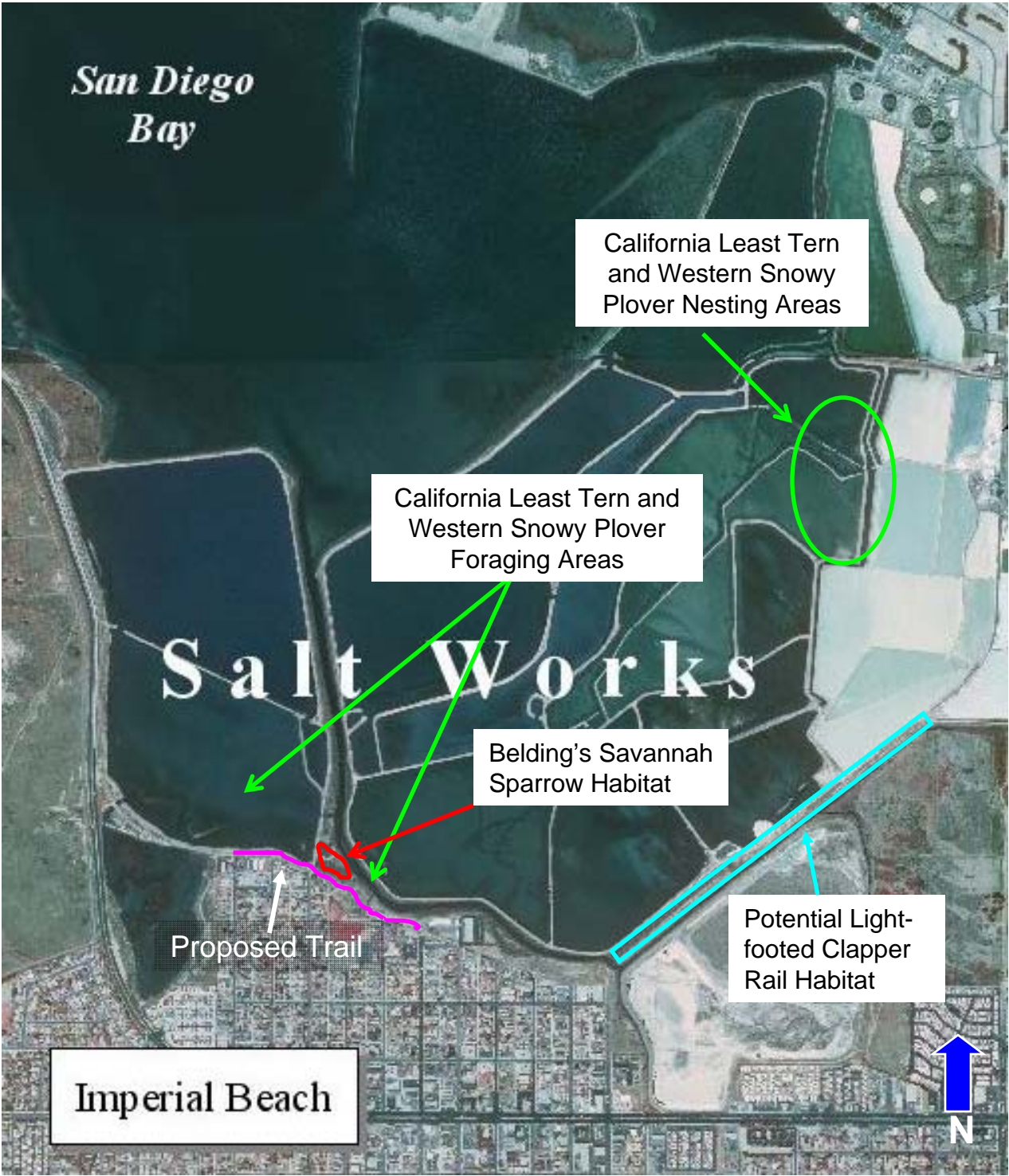


Figure 3 – Project Overview



Figure 4
Proximity of Listed and Sensitive Species to the Project Site



Appendix A CEQA Environmental Checklist

1. Project title: San Diego Bay National Wildlife Refuge, Bayside Birding and Walking Trail
2. Lead agency name and address: California State Coastal Conservancy
1330 Broadway, 11th Floor
Oakland, CA 94612
3. Contact person and phone number: Megan Johnson, Project Manager
619.645.3167
4. Project location: South end of San Diego Bay between 7th Street and 10th Street in Imperial Beach, San Diego County, California
5. Project sponsor's name and address: U.S. Fish and Wildlife Service
San Diego National Wildlife Refuge Complex
6010 Hidden Valley Road, Suite 101
Carlsbad, CA 92011
6. General plan designation: Not applicable, the site is a National Wildlife Refuge.
7. Zoning: Not applicable
8. Description of project:
Refer to attached Mitigated Negative Declaration, Initial Study/Environmental Assessment.
9. Surrounding land uses and setting:
Refer to Sections 4 and 6A, B, and F of the attached Initial Study/Environmental Assessment.
10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)
 - A. U.S. Fish and Wildlife Service, San Diego National Wildlife Refuge – Finding of No Significant Impact (FONSI) and Section 7 Biological Evaluation Form
 - B. U.S. Army Corps of Engineers – Nationwide Section 404 and/or Section 10 Permit
 - C. Regional Water Quality Control Board – 401 Certification
 - D. California Department of Fish and Game – Consultation with Trustee Agency
 - E. California Coastal Commission – Coastal Consistency Determination

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|--|--|
| <input type="checkbox"/> Aesthetics (including Topography and Visual Quality) | <input type="checkbox"/> Agriculture Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

- | | | |
|--|---|---|
| <input type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

DETERMINATION: (To be completed by the Lead Agency)
On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature

12/22/08

Date

Megan Johnson, Project Manager

Printed Name

For

EVALUATION OF ENVIRONMENTAL IMPACTS:

Issues:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:
a) Have a substantial adverse effect on a scenic vista? <i>Refer to Sections 6A & 7A of the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? <i>Refer to Sections 6A and 7A of the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) Substantially degrade the existing visual character or quality of the site and its surroundings? <i>Refer to Sections 6A and 7A of the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? <i>No lighting is proposed in association with this project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? <i>The project site is not zoned for agricultural use or identified as farmland on the San Diego County Important Farmland 1998 map (California Department of Conservation 2000).</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? <i>See IIa above.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan? <i>The only aspects of the project that would result in air emissions are the construction phase of the project, which will be limited to a few weeks; and vehicle trips associated with future users of the trail. These activities are not inconsistent with the implementation of the region's air quality management plan.</i>	<div><div></div><div></div></div>	<div><div></div><div></div></div>	<div><div></div><div></div></div>	<div><div></div><div>✓</div></div>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? <i>The project will not result in any discernible increases in emissions within the region.</i>	<div><div></div><div></div></div>	<div><div></div><div></div></div>	<div><div></div><div></div></div>	<div><div></div><div>✓</div></div>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? <i>Although the San Diego Air Basin is a non-attainment area for ozone and particulates, the size of this project is not expected to result in the significant generation of particulates or generate enough vehicular traffic to produce discernible amounts of ozone (USFWS 2006).</i>	<div><div></div><div></div></div>	<div><div></div><div></div></div>	<div><div></div><div>✓</div></div>	<div><div></div><div></div></div>
d) Expose sensitive receptors to substantial pollutant concentrations? <i>The project will neither generate pollutant concentrations that could impact adjacent sensitive receptors, nor would users of the proposed trail be subject to any pollutant concentrations from adjacent sources.</i>	<div><div></div><div></div></div>	<div><div></div><div></div></div>	<div><div></div><div></div></div>	<div><div></div><div>✓</div></div>
e) Create objectionable odors affecting a substantial number of people? <i>No odors will be generated from this project.</i>	<div><div></div><div></div></div>	<div><div></div><div></div></div>	<div><div></div><div></div></div>	<div><div></div><div>✓</div></div>

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES -- Would the project:	• <input type="checkbox"/>	• ✓	• <input type="checkbox"/>	• <input type="checkbox"/>
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? <i>Refer to Sections 6B and 7B of the Initial Study.</i>	• <input type="checkbox"/>	• ✓	• <input type="checkbox"/>	• <input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? <i>Refer to Sections 6B and 7B of the Initial Study.</i>	• <input type="checkbox"/>	• ✓	• <input type="checkbox"/>	• <input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? <i>Refer to Sections 6B and 7B of the Initial Study.</i>	• <input type="checkbox"/>	• ✓	• <input type="checkbox"/>	• <input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? <i>Refer to Sections 6B and 7B of the Initial Study.</i>	• <input type="checkbox"/>	• <input type="checkbox"/>	• ✓	• <input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? <i>No local policies/ordinances are applicable to the proposed project.</i>	• <input type="checkbox"/>	• <input type="checkbox"/>	• <input type="checkbox"/>	• ✓
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? <i>The project site is not located within the boundaries of an adopted HCP, NCCP, or other regional or state habitat conservation plan.</i>	• <input type="checkbox"/>	• <input type="checkbox"/>	• <input type="checkbox"/>	• ✓

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES -- Would the project:
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5? <i>Refer to Sections 6C and 7C of the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5? <i>Refer to Sections 6C and 7C of the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? <i>No unique paleontological or geologic features or sites have been recorded in the project vicinity. In addition, land disturbance associated with this project will be minimal.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
d) Disturb any human remains, including those interred outside of formal cemeteries? <i>No archaeological resources have been recorded in this area and the presence of human remains is not anticipated. In addition, land disturbance associated with this project will be minimal. Refer also to Sections 6C and 7C of the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

VI. GEOLOGY AND SOILS -- Would the project:
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. <i>Refer to Sections 6D and 7D of the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
ii) Strong seismic ground shaking? <i>Refer to Sections 6D and 7D of the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
iii) Seismic-related ground failure, including liquefaction? <i>Refer to Sections 6D and 7D of the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>

iv) Landslides? <i>There are no ancient landslides or significant manufactured slopes in the vicinity of the project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

c) Result in substantial soil erosion or the loss of topsoil? <i>Refer to Sections 6D and 7D of the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>

d) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse? <i>Refer to Sections 6D and 7D of the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>

e) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? <i>The Soil Survey does not identify expansive soils the vicinity of the project (USDA 1973).</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

f) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? <i>No such facilities are proposed.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

VII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? <i>No hazardous materials are present on the site, nor are any such materials or emissions associated with this project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? <i>Refer to Section VIIa above.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? <i>Refer to VIIa above.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? <i>The project site is not included on the list of hazardous materials sites (USFWS 2004).</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? <i>The project site is not located within two miles of a public use airport.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area? <i>The military airfields at NAS North Island and Outlying Field Imperial Beach would not represent a safety hazard for people using the proposed trail.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? <i>This is a trail project that does not impact public streets or create a barrier to emergency response or evacuation.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? <i>There is minimal risk of wildland fires within the project site.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

VIII. HYDROLOGY AND WATER QUALITY -- Would the project:

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements? <i>The project proposes minimal grading and no proposals for discharge.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
	•	•	•	•
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? <i>The project will have no effect on groundwater supplies.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
	•	•	•	•
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? <i>The existing drainage patterns on the site would not be altered and the proposed bridge over the existing drainage channel would span the entire width of the channel, resulting in no effects to flows within the drainage.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
	•	•	•	•
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? <i>The existing drainage patterns on the site would not be altered and would have no affect on flooding in the area.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
	•	•	•	•
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? <i>Runoff from the site would not increase as a result of the proposed project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
	•	•	•	•
f) Otherwise substantially degrade water quality? <i>Refer to Sections 6E and 7E of the Initial Study.</i>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>
	•	•	•	•

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? <i>This is not a housing project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? <i>If flooding were to occur in the Otay River channel, the project would not impede or redirect flood flows.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? <i>There is not a significant risk of flooding within the project site.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
j) Inundation by seiche, tsunami, or mudflow? <i>There is not a significant risk of seiche, tsunami, or mudflow within the project site.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
IX. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community? <i>The project site is located along the edge of an established community, not within it.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? <i>The project would impact wetlands located within the Coastal Zone. Mitigation to reduce impacts to below a level of significance is addressed in Sections 7B and 7F of the Initial Study.</i>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan? <i>Refer to response IVf above.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. MINERAL RESOURCES -- Would the project:
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? <i>The California Department of Conservation (1996) indicates that the presence of significant mineral resources is unlikely at this location.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? <i>Refer to Response Xa above.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
XI. NOISE -- Would the project result in:
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? <i>Refer to Sections 6G and 7G in the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? <i>Construction equipment used to construct the trail would be small, resulting in little if any temporary groundborne vibration.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? <i>Refer to Sections 6G and 7G in the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? <i>Refer to Sections 6G and 7G in the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? <i>The project site is not located within two miles of a public use airport.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? <i>NAS North Island and Outlying Field Imperial Beach would not result in excessive noise levels out the project site.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
XII. POPULATION AND HOUSING -- Would the project:				
a) Induce substantial population growth in an area, directly (e.g., by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? <i>The construction of a trail would not be growth inducing.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? <i>No residential development would be displaced and the project site is not proposed for future residential development.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? <i>See Response XIIb above.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire or Police protection? <i>The project would not generate the need for additional fire or police protection.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
Schools? <i>The project would not generate the need for additional schools.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Parks? <i>The project is a recreational use and would not generate the need for additional parks.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
Other public facilities? <i>The project would not generate the need for any additional public facilities. A parking lot to support public use in the area is already being proposed by the City of Imperial Beach.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
	•	•	•	•
XIV. RECREATION	•	•	•	•
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? <i>The project will likely increase pedestrian use of the adjacent segments of the Bayshore Bikeway, but this increase would not be of sufficient magnitude to adversely affect the facility.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
	•	•	•	•
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? <i>Refer to Sections 6I and 7I of the Initial Study.</i>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>
	•	•	•	•
XV. TRANSPORTATION/TRAFFIC -- Would the project:	•	•	•	•
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? <i>The number of vehicle trips generated as a result of this project is expected to be well below five percent of the current traffic volumes on the surrounding streets.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
	•	•	•	•
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? <i>Refer to Response XVa above.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
	•	•	•	•

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? <i>This project would have no effect on air traffic.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? <i>No hazards or incompatible uses would be created by the project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
e) Result in inadequate emergency access? <i>There is adequate access for emergency vehicles to reach the trail.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
f) Result in inadequate parking capacity? <i>Refer to Sections 6J and 7J of the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? <i>The project would support alternative transportation planning and is noted in the Bayshore Bikeway Plan.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
XVI. UTILITIES AND SERVICE SYSTEMS -- Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? <i>No wastewater would be generated from this project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? <i>No such facilities are required to support this project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? <i>No such facilities are required to support this project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? <i>No such facilities are required to support this project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? <i>No such facilities are required to support this project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? <i>No such facilities are required to support this project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
g) Comply with federal, state, and local statutes and regulations related to solid waste? <i>Solid waste will not be generated by this project.</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	✓
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? <i>Refer to Sections 6 B and C and 7 B and C of the Initial Study.</i>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? <i>Refer to Section 8 of the Initial Study.</i>	<input type="checkbox"/>	✓	<input type="checkbox"/>	<input type="checkbox"/>

Exhibit 4: Mitigated Negative Declaration and Initial Study/Environmental Assessment

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? <i>Refer to the Initial Study.</i>	<input type="checkbox"/>	<input type="checkbox"/>	✓	<input type="checkbox"/>

Note: Authority cited: Sections 21083 and 21087, Public Resources Code. Reference: Sections 21080(c), 21080.1, 21080.3, 21082.1, 21083, 21083.3, 21093, 21094, 21151, Public Resources Code; Sundstrom v. County of Mendocino, 202 Cal.App.3d 296 (1988); Leonoff v. Monterey Board of Supervisors, 222 Cal.App.3d 1337 (1990).

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California Department of Conservation, Division of Land Resources Protection. 2000. San Diego County Important Farmland 1998, Sheet 1 of 2.

U.S. Department of Agriculture, Soil Conservation Service and Forest Service. 1973. Soil Survey, San Diego Area, California.

U.S. Fish and Wildlife Service. 2004. South San Diego Bay Unit of the San Diego Bay National Wildlife Refuge Contaminant Assessment. Prepared for the Carlsbad Fish and Wildlife Office Environmental Contaminants Division, Carlsbad, CA.

U.S. Fish and Wildlife Service. 2006. San Diego Bay National Wildlife Refuge Sweetwater Marsh and South San Diego Bay Units Final Comprehensive Conservation Plan/Environmental Impact Statement.

APPENDIX B

SECTION 7 BIOLOGICAL EVALUATION FORM

Originating Person: Brian Collins
Wildlife Biologist, San Diego Bay National Wildlife Refuge
Telephone Number: (619) 691-1262
Date: December 3, 2008

I. Region: Region 8

Service Activity (Program): Construction, Operation, and Maintenance of the Bayside Birding and Walking Trail, San Diego Bay National Wildlife Refuge

II. Pertinent Species and Critical Habitat:

A. Listed species and/or their critical habitat within the action area:

1. California least tern (*Sternula antillarum browni*) (endangered)
2. Western snowy plover (*Charadrius alexandrinus nivosus*) (threatened)
3. Light-footed clapper rail (*Rallus longirostris levipes*) (endangered)
4. Salt marsh bird's beak (*Cordylanthus maritimus maritimus*) (endangered)
5. California brown pelican (*Pelecanus occidentalis*) (endangered)

B. Proposed species and/or proposed critical habitat within the action area: None

C. Candidate species within the action area: None

III. Geographic area or station name and action:

Station Name: San Diego Bay National Wildlife Refuge (South San Diego Bay Unit)

IV. Federal Action: Closure and restoration of an existing unauthorized footpath through sensitive high salt marsh vegetation and replacement with a six-foot-wide, 2,060-foot-long pedestrian trail that is aligned to minimize impacts to sensitive vegetation. The closure of the existing informal foot path will allow for a trail to be installed in site that will concentrate pedestrian uses to an authorized area, and allow vegetation recovery to occur in areas that are currently regularly trampled by unauthorized informal entry. The trail project, which includes a 50-foot-long pedestrian bridge, a 750-square-foot overlook area near the north end of 10th Street, and a deck overlook at the north end of 8th Street, would be located along the south end of San Diego Bay within the South San Diego Bay Unit of the San Diego Bay National Wildlife Refuge.

V. Location (Figures 1 and 2, attached):

- A. Ecoregion Name: Southern California Ecoregion
- B. County and State: San Diego County, California
- C. Coastal Strand, Estuarine, and Upland Habitats

VI. Description of Proposed Action

The project involves the construction of a 2,060-foot-long, six-foot-wide, 3-inch deep stabilized aggregate pedestrian trail along the south end of San Diego Bay. The trail, which would begin at 7th Street in Imperial Beach and extend east to 10th Street, would be constructed using hand tools and construction equipment (e.g., dump trucks and small excavators). As part of the trail project, a 50-foot-long pedestrian bridge will be installed to span an existing drainage located between 8th Street and 10th Street and two observation areas will be constructed including a 750-square-foot overlook area near the north end of 10th Street and a deck overlook the north end of 8th Street. The project, which would be constructed outside of the nesting season (i.e., September 15 to February 15), would require two to three months to complete.

The trail would begin at the point where access is provided to the Bayshore Bikeway from 7th Street. The topography in this location is relatively flat and just slightly lower than the existing bikeway. The first 150 feet of the trail would be constructed fairly close to the bike path in order to minimize impacts to scattered patches of high marsh vegetation growing in the salty soils adjacent to Pond 10.

The elevation of the proposed trail alignment increases as the trail moves east and the distance between the pond edge and the trail also increases. However, the grade change is gradual enough that the trail alignment remains relatively flat. By about 209 feet from 7th Street, the trail is aligned on a bench of flat land located between the bike path and the edge of the pond. About 660 feet from 7th Street, the trail approaches the 8th Street access to the Bayshore Bikeway. A future viewing area is proposed at this location that would be designed to provide wildlife observation opportunities, restrict public access onto the adjacent salt pond levees; and continue to provide access to the western pond levees for Service maintenance vehicles. The viewing area would consist of a slightly raised deck located to the west of the existing maintenance road, along with fencing and a security gate for the maintenance road. Until funding is secured for this component of the project, temporary fencing and/or signage would be installed along the north side of the trail in this location to discourage access onto the existing maintenance road to the north of the trail.

To the east of 8th Street, the area is relatively flat. About 1,450 feet east of 7th Street, the proposed trail alignment approaches a 30-foot-wide drainage channel that will have to be crossed by a bridge. The west side of the drainage is about 2.5 feet lower than the eastern side of the drainage, requiring some grading on the west side of the channel to accommodate a level crossing. A 50-foot-long, six-foot-wide bridge would span the drainage channel and would be anchored at each end to concrete abutments, enabling the bridge to span the drainage without requiring pilings or posts within the drainage. The bridge would have 42-inch railings on both sides of the bridge deck.

Once past the bridge site, a natural high point extends east for a distance of approximately 250 feet. The higher elevation provides good views of the Otay River and many of the salt ponds. Near 10th Street, the proposed alignment enters another area offering views of the adjacent bay and associated habitats. A 750-square-foot overlook is planned for this location. The City of Imperial Beach plans to construct a public parking area to the south of the Bayshore Bikeway at 10th Street to serve the adjacent trail system. Until the parking area is completed, on-street parking would be available to accommodate trail users.

The trail would be constructed in accordance with accessibility guidelines for trails, as described in the Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas. Specifically, the trail would consist of a combination of stabilized decomposed granite, or other comparable material, and possibly a short section of pin-foundation boardwalk construction at the western end of the trail to minimize impacts to high marsh vegetation. The trail would be constructed entirely on lands included within the South San Diego Bay Unit of the San Diego Bay NWR. The Refuge is managed by the Service, which leases the proposed project site from the California State Lands Commission. Construction on the project would begin in mid-September 2009 and would be completed no later than February 15, 2010. Ongoing maintenance of the trail including periodic re-grading and addition of decomposed granite, and repair or replacement of posts and cable shall be the responsibility of Refuge staff. Avoidance and minimization measures include pre-project vegetation and avian usage surveys (already conducted), seasonal restrictions on construction activities, and specific placement locations chosen for the project site.

- VII. Vegetation/Habitat. Although native upland species, such as bladder pod (*Isomeris arborea*), coast sunflower (*Encelia californica*), California saltbush (*Atriplex californica*), and California sagebrush (*Artemisia californica*), have been planted along portions of the Bayshore Bikeway and in a few locations on the marine terrace, the majority of the project site is highly disturbed and dominated by non-native invasive plants such as garland chrysanthemum (*Chrysanthemum coronarium*), non-native annual grasses, various forms of invasive iceplant, particularly *Mesembryanthemum crystallinum*, *Mesanthemum nodiflorum*, *Malephora crocea*, and other weedy species.

The only areas supporting naturally occurring native vegetation within the project site are: 1) the area from 7th Street to approximately 195 feet east of 7th Street, where patches of native coastal salt marsh vegetation can be found; and 2) within the drainage channel that cuts across the project site between 8th Street and 10th Street. Pond 10 and the area immediately to the south of the pond are not subject to tidal action, but soil salinity adjacent to the pond is likely influenced by the salinity levels in Pond 10. Although disturbed, this area supports several high marsh species, including glasswort (*Salicornia subterminalis*), alkali heath (*Frankenia salina*), spreading alkali weed (*Cressa truxillensis*) and saltwort (*Batis maritima*). Currently this vegetation is patchy. Saltwort

generally occurring closest to the edge of the salt pond, with the other high marsh species scattered throughout the area along with various invasive weeds, particularly non-native grasses.



Figure 1: Project site superimposed on aerial photo.

VIII. Determination of effects:

Species Accounts

California Least Tern (*Sternula antillarum browni*)

The California least tern is the smallest of the tern species, measuring less than ten inches (about 23 centimeters) in length and weighing 45 to 55 grams. The total wing length is approximately four inches (110 millimeters) (Massey 1976). This subspecies has a short, forked tail, and a long, slightly decurved, tapered bill. Males and females are both characterized by a black cap, gray wings with black wingtips, white underbody, orange legs, and a black-tipped yellow bill (USFWS 1985). The California least tern breeds in the United States only along the immediate coast of California from San Francisco Bay south to the Mexican border. Unfrequented sandy beaches close to estuaries and coastal embayments had historically served as nesting sites for this species, but by the 1960s, suitable nesting areas were severely reduced due primarily to coastal development and

intense human recreational use of beaches. As a result, the tern's numbers diminished from uncountable thousands to several hundred by 1970, when the least tern was added to the Federal Endangered Species List.

Only a few beaches continue to support least tern nesting, including the Tijuana Estuary, Naval Amphibious Base Coronado, Naval Base Coronado (NAB Coronado, NBC), Santa Margarita River mouth, Huntington Beach, and Venice Beach. Terns have also recently returned to nest along a portion of beach in Ocean Beach near the mouth of the San Diego River. The majority of the least tern nesting areas now occur on manufactured substrates or fills, some of which were intentionally created to support tern nesting, while others were created for different reasons and inadvertently attracted nesting terns. Since 1970, nesting sites have been recorded from San Francisco Bay to Bahia de San Quintin, Baja California, Mexico. The nesting range in California has apparently always been widely discontinuous, with the majority of birds nesting in southern California from Santa Barbara County south through San Diego County.

The loss of historic undisturbed "natural" breeding sites has forced least terns to adapt to a wide variety of alternatives; however, these alternative sites share several basic ecological requirements. Specifically, alternative sites must be relatively flat, open areas, with a sandy or dried mud substrate; relatively secluded from disturbance and predation; and in proximity to a lagoon or estuary with a dependable food supply (*Longhurst 1969, Craig 1971, Swickard 1971, Massey 1974*).

The California least tern is migratory, usually arriving in breeding areas in April and departing again in August. Least terns are colonial but do not nest in as dense a concentration as many other tern species. The nest is a simple scrape or depression in the sand, in which one to four eggs are laid, usually two. The breeding season is from May through August and only one brood is raised. However, the birds will renest if eggs or chicks are lost. Re-nesting often occurs from mid-June to early August, a time when 2-year-old birds also nest for the first time (*Massey and Atwood 1981*). Parents continue to feed their young even after they are strong fliers.

This tern species is an exclusive fish-eater, typically feeding on topsmelt, northern anchovy, gobies, and jacksmelt (*Massey 1974, Atwood and Kelly 1984*). Studies on fish dropped at nesting sites suggest that fish size, rather than species, is the essential requirement of suitable prey for the least tern. Feeding is carried out in the calm waters of narrow estuaries or large bays and for a short distance (i.e., usually within two miles [three kilometers] of the beach) in the open ocean. The hovering and plunging habits of this species are conspicuous. Adults that are not feeding young tend to go farther and feed on larger fish. After the eggs have hatched, however, the parents make shorter trips, bringing back smaller fish for their chicks. This need to locate smaller fish appears to result in the increased use of freshwater marsh systems, lagoons, and estuarine areas during the post-breeding dispersal phase, suggesting the importance of such habitats when juveniles are learning to fish.

The least tern and western snowy plover are vulnerable to a long list of predators, some of which are very abundant in urban environments, such as feral cats and dogs, crows, loggerhead shrikes, American kestrels, and other birds of prey. At Tijuana Slough NWR and San Diego Bay NWR, young least tern chicks can fall prey to various raptors, coyotes, crows and ravens, feral dogs and cats, and other predators. To protect the least tern and snowy plover nesting sites from disturbance, ground access by humans and their pets is directed away from the colony sites by seasonally placed symbolic fencing and sign posts indicating that these nesting sites are closed to public access. Volunteers participating in the Tern Watcher program are present on the beach at Tijuana estuary at some times during the nesting season to inform the public of the rules and regulations relating to endangered species management and to act as extra sets of eyes and ears for Refuge law enforcement or biological personnel. Nest site management involves three essential elements that if implemented may improve least tern reproductive success. These elements include protection from human disturbance, management of predators, and education of surrounding public populations to the presence and sensitivity of the threatened and endangered species in the area.

Light-footed Clapper Rail (*Rallus longirostris levipes*)

The light-footed clapper rail is a hen-sized marsh bird that is long-legged, long-toed, and approximately 14 inches (36 centimeters) long. The species has a slightly down-curved beak and a short, upturned tail. Males and females are identical in plumage. Their cinnamon breast contrasts with the streaked plumage of the grayish brown back and gray and white barred flanks.

The light-footed clapper rail uses southern California coastal salt marshes, lagoons, and their maritime environs. The birds nest in the lower littoral zone of coastal salt marshes where dense stands of cordgrass are present. They also occasionally build nests in pickleweed. Light-footed clapper rails have also been known to reside and nest in freshwater marshes, although this is not common. They require shallow water and mudflats for foraging, with adjacent higher vegetation for cover during high water (Massey *et al.* 1984).

Light-footed clapper rails inhabit coastal marshes from the Carpinteria Marsh in Santa Barbara County, California, to Bahia de San Quintin, Baja California, Mexico. At one time, light-footed clapper rails were believed to occur at most salt marshes along the coastline. However, recent census data indicate that less than 50 percent of the coastal wetlands in California are currently occupied. Southern California's largest subpopulation of these rails, located in the Upper Newport Bay, has been successfully reproducing since 1980. In contrast, the second and third largest subpopulations at Tijuana Marsh and Seal Beach NWR are known to have undergone significant and episodic decreases in their numbers. At Seal Beach predation by mammalian and avian predators has periodically reduced the rail population. At Tijuana Slough, predation is also an important factor but the closing of the river mouth and subsequent cordgrass die-

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off was an environmental event that significantly affected the rail population present in the estuary at the time. All of the other subpopulations have exhibited more vulnerability to fluctuations in environmental conditions.

Very limited evidence exists for intermarsh movements by light-footed clapper rails. This subspecies is resident in its home marsh except under unusual circumstances. Movement within the marsh is also confined and generally of no greater spread than 1,300 feet (400 meters) (Zemba 1989). Minimum home range sizes for nine clapper rails that were radio-harnessed for telemetry at Upper Newport Bay varied from approximately 0.8 to 4.1 acres. The larger areas and daily movements were by first year birds attempting to claim their first breeding territories.

Light-footed clapper rails forage in all parts of the salt marsh, concentrating their efforts in the lower marsh when the tide is out, and moving into the higher marsh as the tide advances. Foraging activity is greatest in the early morning, while vocalizing shows a strong peak just before dark. Activities are also tide-dependent. The rails are omnivorous and opportunistic foragers. They rely mostly on salt marsh invertebrates, such as beetles (*Coleoptera*), garden snails (*Helix* spp.), California hornsnaills, salt marsh snails (*Melampus olivaceus*), fiddler and hermit crabs (including *Pachygrapsus crassipes*, *Hemigrapsus oregonensis*, and probably *Uca crenulata*), crayfish, isopods, and decapods. This species may also forage on frog tadpoles (*Hyla* spp.), California killifish, and even California meadow mice (*Microtus californicus*). The rails ingest some vegetable matter, including cordgrass stems and pickleweed tips, but this is uncommon.

The pair bond in light-footed clapper rails endures throughout the season, and often from year to year. Nesting usually begins in March and late nests have usually hatched by August. Nests are placed to avoid flooding by tides, yet in dense enough cover to be hidden from predators and support the relatively large nest. Females lay approximately four to eight eggs, which hatch in 18-27 days. Both parents care for the young. While one adult is foraging, the other adult broods the chicks. By the age of two days, chicks will accompany adults on foraging trips; however, adults have been observed feeding fully grown chicks of at least six weeks of age within 82 feet (25 meters) of their incubation nest.

Destruction of coastal wetlands in southern California has been so extensive that many estuaries where light-footed clapper rails were once abundant have been reduced to remnants. Although salt marsh habitat loss, degradation, and fragmentation are the leading threats to these rails, they are also threatened by disturbance, diseases, contaminants, and predation by coyotes, feral cats, crows, and some raptors. The light-footed clapper rail was listed as federally endangered on October 13, 1970 (35 FR 16047) and State endangered in California on June 27, 1971. The original recovery plan for this species was approved in July 1979 and a revision was published on June 24, 1985 (USFWS 1985b). Critical habitat has not been designated for this species. The light-footed clapper rail is a fully protected species by the State.

Western Snowy Plover (*Charadrius alexandrinus nivosus*)

The western snowy plover is a sparrow-sized, white and tan colored shorebird with dark patches on either side of the neck, behind the eyes, and on the forehead (*Page et al. 1995*). The coastal western snowy plover population is defined as those individuals that nest adjacent to or near tidal waters and includes all nesting colonies on the mainland coast, peninsulas, offshore islands, adjacent bays, and estuaries. The breeding range of the western snowy plover extends along coastal beaches from the southern portion of Washington State to southern Baja California, Mexico (*USFWS 1993*).

The breeding season of the western snowy plover extends from March 1 through September 15. Generally, 3 eggs are laid in a nest, which consists of a shallow depression scraped in sandy or saline substrates. Some nests are lined with plant parts, small pebbles, or shell fragments. Both sexes incubate the eggs for an average of 27 days (*Warriner et al. 1986*). Snowy plovers will renest after loss of a clutch or brood. Snowy plover chicks are precocial and leave the nest within hours of hatching in search of food. The tending adult(s) provide danger warnings, thermo-regulation assistance, and guide the chicks to foraging areas, but do not provide food to their chicks. Broods rarely stay in the immediate area of the nest. Young birds are able to fly within approximately 31 days of hatching (*Warriner et al. 1986*). Double brooding and the practice of one female having several mates have been observed. In addition, snowy plover females may abandon a nest before the chicks have fledged in search of another mate, leaving the male to care for the brood. Adults and young forage on invertebrates along intertidal areas, along beaches in wet sand and surf cast kelp, in foredune areas of dry sand above the high tide, on salt pans, and along the edges of salt marshes and salt ponds. The snowy plover is primarily a run and glean type of forager.

Human disturbance, predation, and inclement weather, combined with the loss of nesting habitat to urban development and the encroachment of introduced beachgrass (*Ammophila arenaria*), have led to an overall decline in the breeding and wintering population of the western snowy plover along the Pacific Coast. In southern California, the large human population and resulting recreation activities have precluded the western snowy plover from breeding on historic beach strand nesting habitat. As a result, the Pacific coast population of the western snowy plover was federally-listed as threatened in 1993.

There are only a handful of snowy plover breeding locations currently used in southern California. Well used locations include Bolsa Chica (Orange County), Camp Pendleton, Batiquitos Lagoon, NAB Coronado, Silver Strand State Beach, Naval Radio Receiving Facility, and Tijuana Estuary in San Diego County. The western snowy plover nests on the San Diego Bay and Tijuana Slough NWRs.

Salt Marsh Bird's Beak (*Cordylanthus maritimus maritimus*)

Salt marsh bird's-beak is an annual plant that typically grows in the upper elevations of tidal salt marsh habitat, but can also occasionally be found in nontidal salt marsh. Three bird's-beak subspecies grow in the saline marshes of the western United States and Baja California, with the subspecies *Cordylanthus maritimus maritimus* occurring in the coastal marshes of northern Baja California and southern California from San Diego to Santa Barbara Counties. Salt marsh bird's-beak has an upright, branched growth form with an abundance of purple pigment in its tissues. The plants of San Diego County have bare pale cream-colored flowers.

A hemiparasitic plant, salt marsh bird's-beak is believed to derive water and perhaps nutrients through specialized root connections with other species (*USFWS 1985*). It is often found in association with pickleweed, shore grass, salt grass, Frankenia, and sea lavender. The plant occurs in well-drained/well-aerated soils that dry during the summer and where the only freshwater input is rainfall. Studies indicate that freshwater influence in the spring encourages germination and that salinities at the time of germination usually cannot exceed 12 ppt. Germination and flowering usually spans May to October but can sometimes occur during the winter. Pollination by upland, native bees is considered important to seed production, and yearly population numbers depend directly on seed dispersal and a site that provides the precise conditions required for germination.

Colonies of salt marsh bird's beak are found in only a few scattered salt marsh habitats between Santa Barbara and San Diego Counties. The subspecies was listed as endangered in 1970 due to destruction and degradation of southern California's coastal salt marsh systems. It is currently surviving at Carpinteria Marsh, Mugu Lagoon/Ormond Beach, Upper Newport Bay, Sweetwater Marsh, Naval Radio Receiving Facility (YMCA Surf Camp site), and Tijuana Slough. Although salt marsh bird's-beak has not been observed in any areas located in proximity to the project site, there remains a potential for it to occur in nearby salt marsh habitat however the actual project construction area is above the elevations where it is known to occur.

California Brown Pelican (*Pelecanus occidentalis californicus*)

The California brown pelican, which is one of six recognized subspecies of brown pelican, occurs along the Pacific Coast of the U.S. and Mexico, including the Gulf of California (*USFWS 1983*). The California brown pelican is still found in its original range, and breeds in the Channel Islands and on several islands off the coast of Acapulco, Guerrero, Mexico.

The California brown pelican was listed as endangered in 1970 because of widespread pollutant-related reproductive failures. They are extremely sensitive to bioaccumulation of the pesticide DDT, which causes reproductive failure by altering calcium metabolism and thinning eggshells. Although California breeding populations have rebounded since the elimination of DDT use, DDT is still manufactured for export and its effects in the environment linger.

The availability and quality of roosting and loafing areas influences the energy budgets and reproductive potential of these birds (*Jaques and Anderson 1987*). Unfortunately, the availability of roosting areas is declining in California as development continues along the coast. This habitat is important for both breeding and non-breeding birds during the breeding season and particularly for the thousands of wintering migrants that occupy the coastal areas of the Southern California Bight during late summer and early fall (*Jaques and Anderson 1987*). Research suggests that roosts, like nesting areas, are selected to maximize the possibility of successful foraging while expending minimal energy (*USFWS 1983*).

The San Diego Bay NWR provides year-round foraging and roosting habitat for non-breeding pelicans. These birds are often observed foraging over the open waters in south San Diego Bay. The salt pond levees, particularly the levee that separates Ponds 10 and 11, appear to provide important roosting areas for non-breeding pelicans. Other roosting sites include the levee between Ponds 12 and 14 and the spit located just to the north of Pond 15. During the Service's 1993/1994 South Bay avian surveys, pelicans were occasionally observed foraging in Ponds 10 and 11 (*Stadtlander 1994*).

IX. Explanation of effects of the action on species listed in Section VII above.

This consultation covers construction, operation, and maintenance of the trail.

California Least Tern

No effect to the western California least tern because tern populations do not occur directly within the areas needed to be accessed to build or maintain the project. The closest occurrence of least terns to the project area is in the nearby marsh and open water habitats approximately 100 feet or farther away where terns may forage for fish during the nesting season. These locations are distant enough to the project area that no disturbance to foraging terns is expected to occur. Although least terns nest in the general vicinity of the project site, documented nesting areas are located approximately 0.5 miles to the northeast of the project area within the interior salt ponds.

Light-footed Clapper Rail

No effect to the light-footed clapper rail. The project site is proposed within an area that is removed from any potential rail habitat. No nesting areas or vegetation with the potential of providing upland cover to high tide refugia areas for rails will be affected.

Western Snowy Plover

No effect to the western snowy plover because plover populations do not occur directly within the project area. Their nearest nesting locations are within the interior salt ponds approximately 0.7 miles to the northwest of the project area, and the nearest foraging locations for the species are likewise within the salt ponds proper or along the mudflats within the Otay River flood control channel at low tide.

Salt Marsh Bird's-Beak

No effect to salt marsh bird's-beak. No access or construction or maintenance into areas that may support salt marsh bird's-beak would occur as a result of construction or continued use of the proposed trail.

California Brown Pelican

No effect the California brown pelican. The project area is not in a location where transit flights, foraging, nesting, or roosting of brown pelicans is likely to occur.

- X. Effect determination for California least tern (*Sternula antillarum browni*), western snowy plover (*Charadrius alexandrinus nivosus*), salt marsh bird's-beak (*Cordylanthus maritimus maritimus*), California brown pelican (*Pelecanus occidentalis*) and light-footed clapper rail (*Rallus longirostris levipes*).

A. Listed species/critical habitat:

Effect determination for California least tern (*Sternula antillarum browni*).

<u>Determination</u>	<u>Response Requested</u>
<u> X </u> no effect	<u> X </u> concurrence
<u> </u> may affect, but is not likely to adversely affect species	<u> </u> concurrence
<u> </u> may affect, and is likely to adversely affect	<u> </u> formal consultation

Effect determination for western snowy plover (*Charadrius alexandrinus nivosus*).

<u>Determination</u>	<u>Response Requested</u>
<u> X </u> no effect	<u> X </u> concurrence
<u> </u> may affect, but is not likely to adversely affect species	<u> </u> concurrence
<u> </u> may affect, and is likely to adversely affect	<u> </u> formal consultation

Effect determination for salt marsh birds-beak (*Cordylanthus maritimus maritimus*).

<u>Determination</u>	<u>Response Requested</u>
<u> X </u> no effect	<u> X </u> concurrence
<u> </u> may affect, but is not likely to adversely affect species	<u> </u> concurrence
<u> </u> may affect, and is likely to adversely affect	<u> </u> formal consultation

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Effect determination for California brown pelican (*Pelecanus occidentalis*).DeterminationResponse Requested

<input checked="" type="checkbox"/> no effect	<input checked="" type="checkbox"/> concurrence
<input type="checkbox"/> may affect, but is not likely to adversely affect species	<input type="checkbox"/> concurrence
<input type="checkbox"/> may affect, and is likely to adversely affect	<input type="checkbox"/> formal consultation

Effect determination for light-footed clapper rail (*Rallus longirostris levipes*).DeterminationResponse Requested

<input checked="" type="checkbox"/> no effect	<input checked="" type="checkbox"/> concurrence
<input type="checkbox"/> may affect, but is not likely to adversely affect species	<input type="checkbox"/> concurrence
<input type="checkbox"/> may affect, and is likely to adversely affect	<input type="checkbox"/> formal consultation

No take is expected of California least tern, western snowy plover, light-footed clapper rail, and California brown pelican based on the type of construction, operation, and maintenance activities; lack of suitable habitats within the action area; distance to the nearest suitable habitat, and implementation of avoidance and minimization measures incorporated into the proposed action. No take is authorized of California least tern, western snowy plover, light-footed clapper rail, and California brown pelican during the construction, operation, and maintenance of the proposed trail.

s/ Brian Collins

Brian Collins, Wildlife Biologist
San Diego Bay National Wildlife Refuge

December 3, 2008

Date

Concurrence:

Andrew R. Yuen

Andrew R. Yuen, Project Leader
San Diego National Wildlife Refuge Complex

12/3/08

Date